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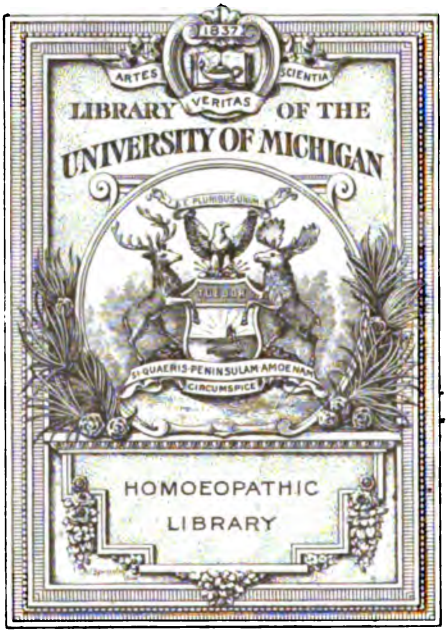
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THE

AMERICAN

HOMŒOPATHIC DISPENSATORY

BY

THEO. D. WILLIAMS, M. D.
MEMBER ILLINOIS STATE PHARMACEUTICAL ASSOCIATION, ACTIVE MEMBER AMERICAN
PUBLIC HEALTH ASSOCIATION, ATTENDING GYNÆCOLOGIST COOK
COUNTY HOSPITAL, ETC.

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LEWIS MATTOCKS AND FRANK WILKIE WILLIAMS
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PREFACE.

On solicitation of the Publishers, and in view of the fact, also, that The American Institute of Homœopathy —who are the only proper persons to arrange and authorize a National or Standard Pharmacopœia—had abandoned the publication of such a work, the author now presents to the medical profession a work on practical pharmacy such as he hopes will ultimately prove, although perhaps markedly imperfect in its present construction, a foundation, as it were, for a National Homœopathic Pharmacopœia.

The important features of the work are: First, a description of both the general and special utensils employed in pharmacy. Second, a concise and lucid explanation of the several processes for the perfect pharmaceutical preparation of remedial substances. Third, an alphabetical arrangement of all the proper names of the remedial agents commonly used by the Homœopathic Practitioner, together with their pronunciation, their synonyms, and their common and vulgar names.

The system of classifying methods, or the continual reference to stated classifications which are to be found elsewhere, a decidedly inconvenient practice, although long in vogue, and specially noted by all other authors, has in this work been abandoned, the several preparations of any one drug being found enumerated under its pharmacopœial or proper name with explicit directions for properly preparing the same.

All botanical and chemical histology of drugs, their physiological, or their therapeutic and toxic effect, has been intentionally ignored; the work proper being on homœopathic preparations.

As incidental features a general formulary, embodying many recipes of manifold worth, and an appendix giving the analyses of all of the important mineral springs in both Europe and America,—information that is certainly unobjectionable, has also been incorporated into the general work.

In brief, the American Homœopathic Dispensatory has been conscientiously written not only for the homœopathic pharmacist, but that it may direct the druggist, the practitioner and the student, that they too shall correctly prepare the various remedies employed by the Homœopathic School of Medicine.

T. D. WILLIAMS.

CHICAGO, June, 1884.

THE

AMERICAN

HOMŒOPATHIC DISPENSATORY.

PART I.

General Pharmacy.

CHAPTER I.

1. The art of preparing medicine first necessitates an attainment of two things; a suitable place wherein medicine may be prepared, and the possession of the proper vehicles and utensils with which to prepare it.

2. It is utterly impossible to prescribe or lay down any definite rule to be strictly followed in the selection of a place, or to imperatively state its subsequent arrangement for pharmaceutical purposes. In general, however, it is only necessary to observe that the apartment should be dry, airy and light, and so arranged as to give absolute protection to the drugs that ultimately proper remedial agents shall be obtained.

3. All the fittings of the laboratory should be made convenient and neat; and, including glassware, utensils, etc., should be kept scrupulously clean.

4. There should be some recognized place for each and every package containing solid or fluid substance; for each utensil; for every empty bottle; and for each and every thing which is not, indeed, in actual use.

5. As it has been so truthfully remarked that, "it is the business of the pharmacist to transform crude drugs into remedial agents, which shall contain the medicinal powers inherent in the original drug, in such a state of development as will secure in the best possible manner their ready and complete action upon

the human organism," the reader's attention is here, first, directed to the selection of the proper utensils.

The Utensils.

6. **The Cork Press** (fig. 1), an implement made of malleable iron, is provided for the purpose of enabling the pharmacist to compress his corks that he may fit them into the mouths of the various size vials in a neat and cleanly manner.

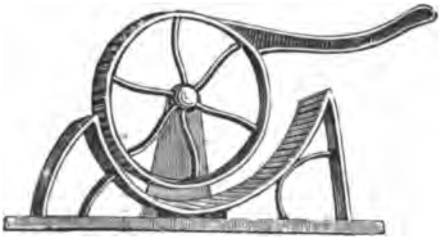


FIG. 1. Cork Press.

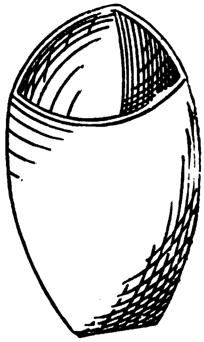


FIG. 2. Hessian Crucible.

7. **The Hessian Crucible** (fig. 2) is employed in the process of *calcination* and *fusion*. It is made of clay, free from lime, mixed with sand or ground ware of the same description.

8. **The Drug Mill** is a convenient piece of mechanism used for the ready comminution of dry drugs. However, for the reduction of small quantities an iron mortar and a common coffee-mill will be found practical, answering every purpose.

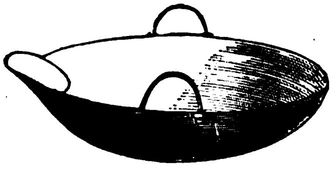


FIG. 3. Iron Evaporating Dish.

FIG. 4. Porcelain Evaporating Dish.

9. **The Evaporating Dish** (fig. 3) is made of iron, and also of German porcelain. The iron evaporating dish, or capsule, is lined with enamel and is peculiarly adapted for the purpose of preparing such compounds as contain oleaginous matter, etc.

The capacity of the iron evaporating dishes vary; they hold from one to four quarts, according to their size.

10. Evaporating dishes made of porcelain also vary in size; they number from 00 to 9, and measure, across the top, from two and one-fourth to sixteen inches. They hold from two ounces to three gallons each.

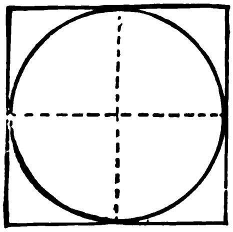


FIG. 5. A Filter.

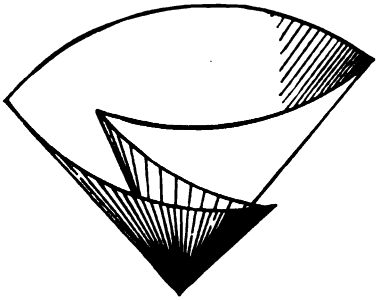


FIG. 6. Plain Filter.

11. **A Filter** (fig. 5, fig. 6), used to gather precipitates, is made by folding a piece of unsized paper either square or circular, together twice; once through the center and then again at right angles so that the four corners shall be brought into apposition; one fold is then separated from the others forming an inverted hollow cone in which form it is placed in the funnel for use.

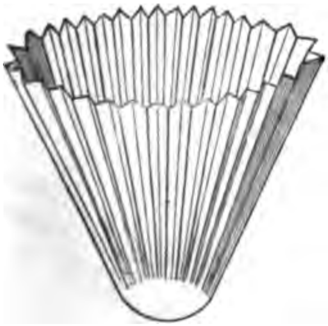


FIG. 7. Plaited Filter.

12. **The Plaited Filter** (fig. 7) is folded in precisely the same manner, but, subsequent to the second or right angle fold, the edges are brought together forming one-eighth of a circle; and these again forming one-sixteenth of a circle; and, finally, once again forming one-thirty-second of a circle. The plaited filter is intended for rapid defacation, and is, therefore, the one most commonly used. The most convenient filters are those known as the *French* round filters; they are from six to twenty-four inches in diameter, and number from fifteen to fifty.

13. **A Filter Rack** (fig. 8) is an implement made of tinned wire; it is so constructed that upon being placed within a funnel

and covered with a filter it can again be removed, together with its contents, if handled with care, and compressed.

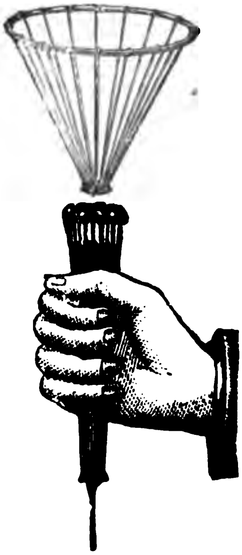


FIG. 8. Filter Rack.

14. **Funnels** (fig. 9) are usually made of glass; although, for special purposes, some are made of porcelain ware and some of Wedgewood. In form, a funnel should taper from base to point at an angle of about thirty degrees. The inner surface of the cone may be either smooth or corrugated; however, those that are corrugated are best in the process of filtering for they permit, as do also the wire racks, of the fluid passing more rapidly through the filter.

15. The tube portion of the funnel should taper from its conical extremity to the end at an angle of at least ten degrees. Furthermore, this part of the funnel should not only be of the prescribed form, but it should be, like the inner surface of the cone, corrugated; that is, corrugated parallel to its longitudinal axis and upon its outer circumference; rendering it not only more easily fitted into the neck of the different size vessels but giving at the same time ample vent as it will for the displacement of air.

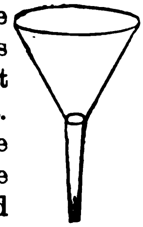


FIG. 9. Funnel

16. **Wedgewood Funnels** (fig. 10) are expressly made for the purpose of rapid defacation, being "staved" or corrugated, and, they are also frequently made use of as a substitute for the percolator in making fluid preparations by displacement. Wedgewood funnels are also used for the purpose of filtering hot liquids.

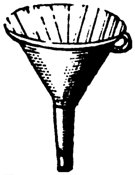


FIG. 10. Wedgewood Funnel

17. **The Graduate** (fig. 11) is a glass vessel bearing close resemblance to an inverted cone upon a flat circular base. Upon

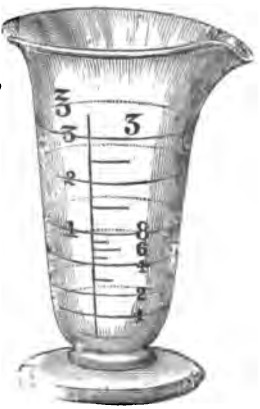


FIG. 11. Glass Graduate.

its outer surperficies it has a graduated scale that indicates, when accurate, the several divisions of apothecaries' measure.

18. An inaccuracy in the scale, however, demands oftentimes that the graduation shall be verified; this is done by weight; a fluid ounce of distilled water—and its Troy division—being the recognized standard.

19. One fluid ounce of distilled water at 60° Fahrenheit weighs 455.6690 Troy grains.

20. Graduates, like mortars, differ in capacity; they hold from one fluid drachm to thirty-two fluid ounces.

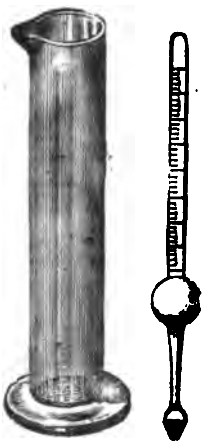


FIG. 13. Hydrometer, Bulb and Jar.

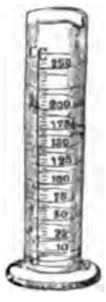


FIG. 12. Gram Glass.

21. **Minim Glasses** hold one fluid drachm, and are graduated down to five minims. Graduates that are of a cylindrical or tumbler shape are not so readily overturned.

22. **The Gram** (fig. 12)—metric—measure is made to deliver from 10 to 1,000 C. C,—cubic centimeters —and is graduated with English measure on one side, and with metrical, French measure, on the other.

23. **The Hydrometer** (fig. 13) is an instrument of glass employed to determine the specific gravity or density of a fluid. The graduation of a hydrometer depends upon the nature of the fluid for which it is intended. Some hydrometers are for the purpose of taking the specific gravity of fluids heavier than water, while others are for the purpose of learning the density of fluids which are lighter than water.

24. One thousand grains of distilled water at 60° F. is the standard unit of all specific gravity.

25. **The Liebig Condenser** (fig. 14) is a cylindrical tin tube three inches in diameter and twenty-four inches long, through which, running lengthwise, there is a glass tube three-fourths of an inch in diameter and from thirty to thirty-four inches long. Upon the upper surface of the tin tube, at the lower end, there enters a second tube, also tin, but much smaller in diameter, which, running parallel with and external to the larger tube, finally terminates in a funnel-shape formation, set vertically, for

the ingress of water. Beneath, at the upper end of the larger tube, there is a small short tube for the discharge of water; the water passing through the larger tube which really is the "jacket" of the condenser. This apparatus, as a whole, when in use, is supported upon a retort stand or some other convenient device at an angle of one hundred and twenty-five degrees for the double purpose of hastening condensation—by the continuous flow of cold water through the "jacket"—and to hasten the discharge of the distillate.

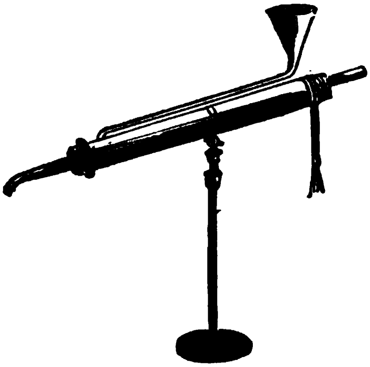


FIG. 14. Liebig Condenser.

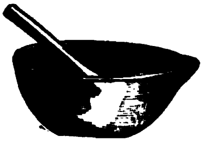


FIG. 15. Porcelain Mortar.

26. The Mortar (fig. 15) together with its pestle, is made of earthenware; either of Wedgewood ware or of porcelain. Those made of glass are not desirable; in fact, for general pharmaceutical purposes their use is not permissible because of the uninterrupted smoothness of their internal surface. Indeed, glass mortars are only needed—and then they are not absolutely essential—when compounding preparations containing bromine, iodine, etc.

27. Iron mortars (fig. 16) are frequently required, in which hard unyielding substances can be reduced and succulent plants may be beaten. Care should be taken to not only keep them clean, but, also to protect them from oxidation or rust. This can be readily accomplished by coating them over, when not in use, with an admixture of "whiting" and alcohol.

28. In brief, the porcelain mortar is best adapted to the requirements of Homœopathic Pharmacology; especially in making triturations, because of its form and the slight even roughness of its internal surface.

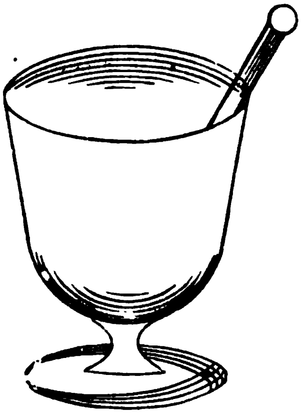
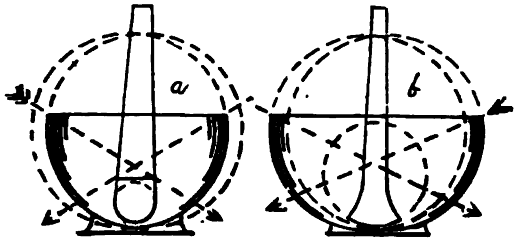


FIG. 16. Iron Mortar.

29. In selecting a mortar, one should carefully examine it to learn, first, if the base is perfectly flat that it shall stand steady and firm; second, if it is provided with a clean, sharply cut lip, thereby facilitating the discharge of liquids; third, if it is either too shallow or too deep; and finally, if it is evenly formed and properly roughened upon its inner surface.



30. The differential value of the two kinds of mortars, the Wedgewood and the porcelain, for triturating medicinal substances, is illustrated by the cuts.

It will be observed that the inner surface of the Wedgewood morter *a*, commencing at the center, describes as it ascends a vertical ellipse; that the inner surface of the porcelain mortar *b* also describes an ellipse, but that in this instance it is not vertical but horizontal; that the base of the pestle belonging to *a* describes a circle that is one-third smaller than is that which is described by the pestle belonging to *b*; that the rubbing surface of the latter is four times greater than is that of the former; and finally, as—50:100 so is the rubbing surface of *a* to the rubbing surface of *b*, as indicated by the arrows. Indeed, it should be remembered that the pestle and mortar bear the same relation one to the other, and that their surfaces ought to as carefully correspond as do the upper and nether stones of a mill.

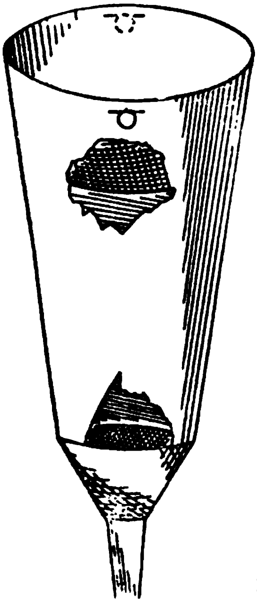


FIG. 18. Tinned Iron Percolator.

31. Mortars vary in size; those made of Wedgewood and of porcelain measure across the top from three to fourteen inches, and are from one and one-half to seven inches in depth.

32. **The Percolator** (fig. 18) is ordinarily made of tinned-iron. It partakes both of the cylindrical and conical form and is

from two and one-half to six inches in diameter at the base and from fourteen to eighteen inches in length. At the smallest extremity it ends in a funnel-shape formation, the neck of which, in some instances, is provided with a stop-cock for the purpose of regulating the discharge of the percolate. Inside, at the juncture where the cylindrical portion joins the funnel, there is a movable perforated diaphragm, which is covered when used, first, with a thin layer of carded cotton, or a piece of cotton or woolen cloth, and afterwards with the substance to be treated.

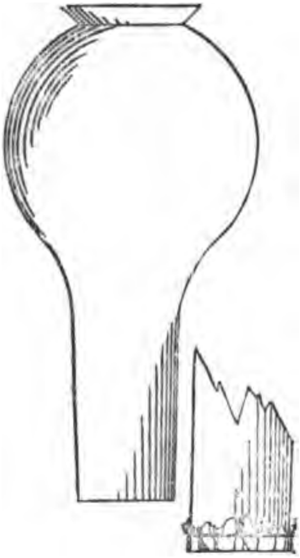


FIG. 20. Lamp Chimney.

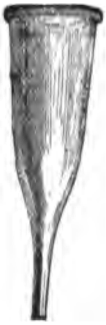


FIG. 19. Glass Percolator.

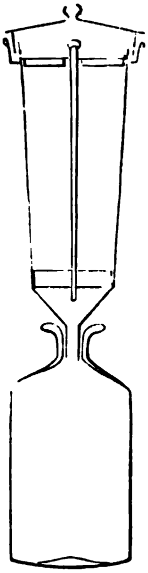


FIG. 21. "Special" Percolator.

33. Percolators (fig. 19) are also made of glass; likewise of porcelain and Queen's-ware. However, the most simple and convenient vessel is one of the old style of lamp chimneys (fig. 20). To use this, the smaller end is capped with cheese cloth, or with a thin piece of muslin, in two or more folds, upon which is placed as elsewhere directed the material to be exhausted.

34. In the process of displacement where volatile fluids are used, a form of percolator such as is shown elsewhere—See Fig. 21—is sometimes employed. Externally, with the exception of a double rim around the top, into which the cover fits, forming an air-tight juncture, this percolator does not materially differ

from the one in common use. Internally the two diaphragms are pierced with a small vertical tube, the object of which is to secure pressure and at the same time prevent losses by evaporation.

35. **A Porcelain Tile,** or slab (fig. 22), is an utensil oftentimes found useful. Upon this semi-solid unctuous substances may be compounded; such as cerates, ointments, etc., and other matters mixed, which are objectionable when brought into contact with a mortar because of their penetrating odor or deep-staining properties.

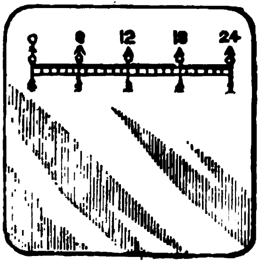


FIG. 22. Porcelain Tile.

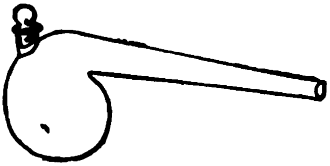


FIG. 23. Glass Retort.

36. **The Retort and the Receiver** (fig. 23) are both made of glass and are so tempered or annealed as to withstand a great degree of heat. These vessels are employed in the re-distillation of alcohol, and also for the purpose of its recovery subsequent to certain manipulations, and to free water from both its organic and inorganic impurities.

37. **The Retort Stand** (fig. 24) is made wholly of iron. It is composed of three parts; of a flat solid base, a small round upright standard, and of three or more rings. The diameters of the rings differ to such an extent and they are so readily adjustable, and are so easily changed to suit circumstances, that the use of the retort stand is not only indispensable, but, it is actually many times of manifold importance.

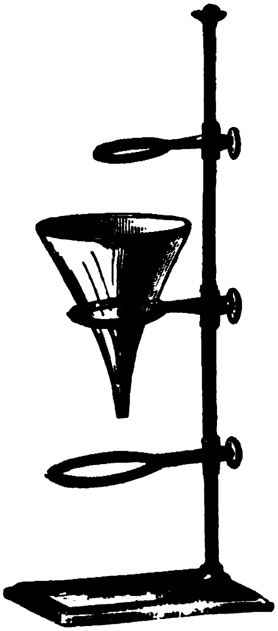


FIG. 24. Retort Stand.

38. **The Sand Bath** (fig. 25) is a "shallow vessel of sheet iron, capable of holding sand to the depth of six inches. It serves to regulate the action of heat on vessels which do not bear a rapid change of temperature. It is sometimes heated to red heat as in preparing the mineral acids, though more frequently it is used for the evaporation of saline solutions and vegetable juices."—*U. S. Disp.*

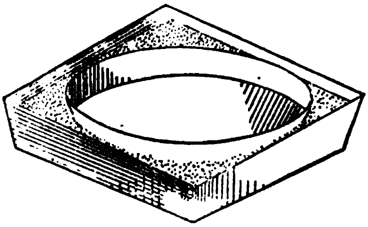


FIG. 25. Sand Bath.

39. **The Scales** (fig. 26), of which there are two or more kinds in pharmacy, are used to obtain a division of substance in a very minute quantity and a similar division in a far greater quantity. The first is a division in accordance with apothecary weight, and the latter a division in accordance with Troy and avoirdupois weight. The first balance is termed a "prescription" scale and the second a "counter" scale. *The scales should be accurately adjusted and carefully kept clean.*

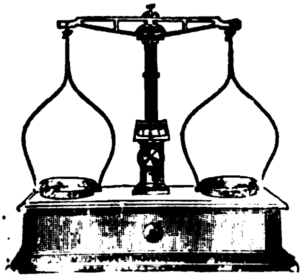


FIG. 26. Prescription Scales.

40. **The Sieve** is a vessel having a bottom of net-work made either of wire, bolting cloth, or hair, and is used to secure an uniformity of the drug particles in the process of pulverization. The value of a sieve depends upon the number of meshes to the linear inch; some sieves have twenty, others forty, fifty, sixty, and eighty meshes respectively, as they are severally designated "coarse," "moderately coarse," "moderately fine," "fine," and "very fine." A sieve having sixty meshes to the linear inch is ordinarily the one to be preferred.

41. **The Spatula** (fig. 27) is a flexible blade of steel, bone, or horn, used to collect together powdered substance undergoing manipulation, and, to otherwise aid in compounding both solid and fluid matter.

42. **The Spirit Lamp** (fig. 23) is usually made of glass. However, the most serviceable kind of spirit lamp is made of tin.

It is simply an ordinary pint tin cup through the cover of which there projects a tin wick-tube two inches long and one-half inch in diameter. The tube is provided with a close-fitting cap for the purpose of preventing evaporation.

43. The Steam Bath (fig. 29) is "far the most useful and easily regulated of the arrangements for indirect heating. When steam heat is applied in a double-sided vessel, like the water-bath, this is called a steam jacket and must have two openings; one for the ingress of the steam and the other for the exit of air, and for drawing off the condensed water. When the steam jacket is strongly made, a heat of 300° may be readily commanded."—*U. S. Disp.*

FIG. 27. Spatula.

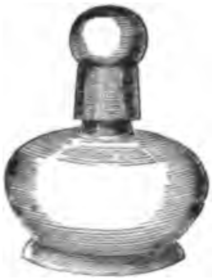


FIG. 28. Spirit Lamp.

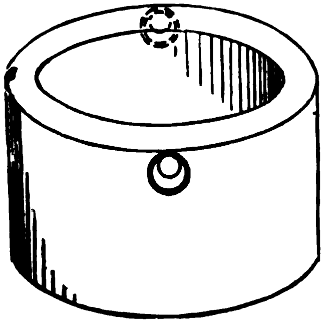


FIG. 29. Steam Bath.

44. The Pharmaceutical Still (fig. 30) is made of either tinned-iron, or of copper. When made of the last named metal it is heavily lined with block tin on the inner surface in order to prevent oxidation. The "still" now commonly used is made of tinned-iron and is composed of two parts; the vessel proper and the "head." The former is cylindrical in shape, fifteen inches in depth, and about the same number of inches in di-

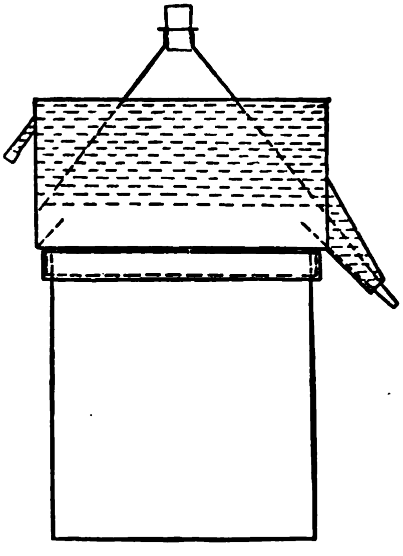


FIG. 30. Pharmaceutical Still.

ameter. Around the upper edge, encircling the vessel, there is a projecting lip or gutter into which the "head" fits forming a water joint. The "head" is a hollow cone; upon the inner surface, at the base, there is a trough into which flows the distillate, and from which it is conveyed, first, into that portion of the "head" termed the "neck," and then onward into a second condenser or into a vessel which is conveniently placed to receive it. Practically this portion of the "still" might be termed the condenser; for such it really is; for, external to the "head" and surrounding it there is a cylindrical band about eight inches in width, provided with an extension, which, encompassing the aforementioned "neck," is a receptacle for the continuous influx and discharge of water.

45. As a substitute for the pharmaceutical "still," especially for the distillation of water, the common "tea-kettle," in conjunction with a "Liebig" Condenser, will answer every purpose.

46. **The Suppository Mould** (fig. 31) is a piece of metal, usually of brass, provided with conical-shaped interstices into which medicated unctuous substances are introduced for the purpose of giving them form.

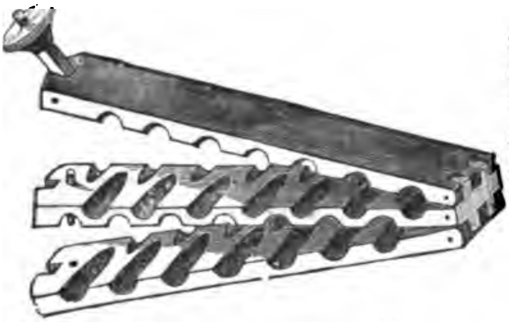


FIG. 31. Suppository Mould.

47. A substitute is to be readily had, particularly in cases where the making of suppositories is but an occasional act, in the use of the paper mould.

The paper mould is made by the aid of a hard-wood tool called a "former." The "former" is conical, pointed at one end, measuring one and one-half inches from point to base, and is at the base nine-sixteenths of an inch in diameter. At the other extremity, extending from the center of the base, leaving a projection over which, when necessary, the end of the mould may be cut, there is a handle; this is suitably rounded, and is two or more inches in length. To make a mould with the "former," either a square or circular piece of paper three and one-quarter inches in diameter is used; the paper is first quartered, each quarter being sufficient for one mould, and then, with the point of the "former" at and over the left lower angle parallel with the horizontal edge, the paper is rolled until the second or perpendicular edge covers the first at which point the projecting lap is made fast with mucilage. The paper cone thus formed, when inverted in a tray of damp sand, in apertures made by the "former," is not only an efficient substitute for the metallic mould, but it is inexpensive

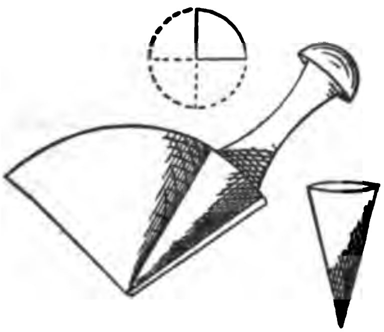


FIG. 32. Suppository "Former."

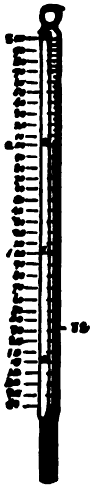


FIG. 33 Chemical Thermometer.

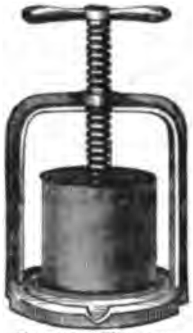


FIG. 34. Tincture Press.

43. **The Chemical Thermometer** (fig. 33) is an instrument made of glass, and is especially adapted to both chemical and pharmaceutical manipulations In its graduation the thermometer is divided into tenths: beginning at twenty-two degrees below freezing point and terminating at two, three, or six hundred degrees Fahrenheit.

49. **The Tincture Press** (fig. 34) is a piece of mechanism made of iron, composed of a frame carrying a screw, a broad cylindrical band, a movable perforated circular plate and a loose fitting circular top. When the quantity of material to be compressed is small, an efficient substitute may be found in the use of a common fruit press.

50. **The Water Bath** (fig. 29) "consists of two copper vessels, the upper one of which is well tinned. It is still more conven-

ient to have the water-bath constructed as a hollow vessel, with an opening at the top for the escape of steam and for the introduction of water, as in figure."—*U. S. Disp.*

The steam-bath shown here (fig. 35) may be readily improvised, forming a water-bath, by the conjoined use of an ordinary four-quart tin pan and the modern pressed tin wash basin. The diameter of the latter vessel across the top should be such as to permit of its edge or rim resting upon the edge or rim of the former, thereby rendering the upper and inner vessel—the wash-basin—at all times readily movable.

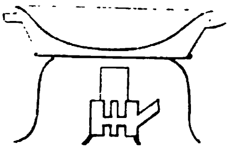


Fig. 35. Water Bath "Improvised."

51. "Where a temperature above that of boiling water, and not exceeding 228° F. is required, the water bath may be filled with a saturated solution of common salt, sulphate of soda, or chloride of calcium, the last mentioned salt permitting a heat as high as 240° when desired."—*U. S. Disp.*

52. **Weights** are made of either iron, brass, or aluminum. Avoirdupois weights, from one-half ounce to four pounds, are made of iron, zinc, or brass and are either "blocked" or "nested." Troy weights are made of brass and are "cupped;" while the apothecary or "prescription" weights are made either of aluminum wire, or brass in the form of "coins" and in "squares."

CHAPTER II.

The Collection and Preservation of Plants.

53. It is an imperative duty that the pharmacist shall provide himself with reliable medicine; that he shall collect it from a trustworthy source, and so preserve it, that when used its reputed therapeutic effect may invariably be sustained.

54. The greatest quantity of the active principle of a medicinal root, particularly of an *annual*, is obtainable when collected just prior to or during the flowering season.

55. The roots of a *biennial* should be gathered in autumn, in its *first* year, at a time when its properties are the most energetic. The roots should be collected *after* the leaves begin to fall.

56. The roots of a *perennial* also possess greater medicinal strength if gathered *after* the leaves have fallen, and *before* the plant is ready to bud again.

57. *Bulbous* roots should be *left* until they have matured, when they should then be collected in the absence of foliage, and in the absence of other vegetation.

58. The proper period for the gathering of *herbaceous* stems is *after* the appearance of the foliage in the spring, and *before* the blossoms have developed.

59. *Resinous* barks should also be gathered in the spring, but previous to flowering, and invariably from plants neither too old nor too young. Other barks should be gathered late in autumn *after* the foliage has disappeared.

60. Leaves should be collected *only* when fully matured; at a time generally when the fruit or seeds are ripe. The leaves of a *biennial* should be collected *only* during the *second* year of their growth; for during the first year they are quite imperfect.

61. Both the *buds* and the *expanded flowers* of medicinal plants should be collected in dry weather, and when the dew is off them.

62. The medicinal virtues of *berries, succulent plants* and *seeds,* are only found when the respective parts are fully ripe.

63. All roots should be thoroughly cleansed, and then, when practicable, dried by sun heat; or, if dried by artificial heat, great care should be taken that the temperature does not exceed 110° F. The roots should not be dried too rapidly, nor at such a degree of temperature as to wholly destroy their properties, or to even render them partially inert. They should not be sliced or broken up; for, when juicy, their properties are thus made to rapidly deteriorate. *Bulbous* roots should be dried in the same manner, but after their external coats have been removed.

64. In the process of drying, all barks should be exposed to the atmospheric air when practicable; for, if dried by artificial heat, they require frequent stirring and more or less constant attention. All medicinal barks should be kept in thin layers until dry.

65. Leaves, leaf stalks and flowers should be enclosed in large paper bags, and hung up in a well-ventilated, but at the same time moderately heated, room; there they will dry, and, thus drying, they will retain all of their medicinal properties, and also more or less of their original color.

66. It must not be forgotten, that moisture, too high or too low temperature, imperfect ventilation, and light, are all injurious influences, and, therefore, that all medicinal substances *must* be protected therefrom. After curing the several parts of the plants as above directed, they may be kept, with the exception of the leaves, leaf stalks, etc.,—which are equally as well off in the paper bags—in *tin canisters.* Here they are protected not only from the above-mentioned influences, but also from the depredation of insects.

67. "The long-continued action of light is very injurious to nearly all medicines. * * * * * All medicines should be kept excluded from light, air and moisture, as much as possible, and none should be stowed away so long as the least dampness is upon them. * * * * * Powders, flowers, aromatic leaves, and articles possessing volatile constituents, should be kept in glass or earthen vessels well covered, or in tin canisters. When

kept in glass vessels, these should be painted or varnished *black* on the outside to prevent the action of light; or the glass itself may be opaque. The direct rays of the sun should never be permitted to fall upon vessels containing medicines."—*King.*

CHAPTER III.

The Divisibility of Medicinal Substance.

68. In the mechanical division of drugs, the pharmacist employs one or more of the several processes named below.

69. That of *contusion* is performed in an iron mortar (Fig. 16) unless the substance is one possessing great astringency when it is then effected in a mortar made of *brass.* In the reduction of such substances as are acrid, or in the reduction of those that are friable and dusty, the mortar is first covered over with a thin piece of leather in order to protect the operator and also to prevent loss. The leather, which is both thin and pliable, is circular-shaped, and, it is provided with an aperture for the passage of the pestle to which implement the leather surrounding the said aperture is afterward fastened. The diameter of this piece of leather is sufficiently ample to permit free movement of the pestle after the drug is introduced into the mortar, and after the outer circumference of the cover is fastened over the mouth of the mortar, which is done either by simply tying it on or by holding it in place with a wooden hoop or a metallic band.

70. When contusion is performed with *complete* or *absolute* reduction in view, the quantity of the substance to be reduced should then be *small;* it should be bruised and broken up; and then, being thrown upon the sieve, and failing to pass the meshes of the sieve, it should be returned again to the mortar for further contusion. If the process is to be performed simply with an idea of breaking down structural tissue, *then* the quantity may easily enough be made greater, particularly if the substance to be treated is *fresh.*

71. In the reduction of *dry roots* or *dry leaves* possessing narcotic properties, although the mortar may be closely covered over as directed above, the operator should further endeavor to guard against the possibility of inhaling minute particles of the drug by covering his mouth and nostrils with a cloth; the cloth should be made *wet*, and the process should be conducted in a current of air.

72. *Slicing*, which is a division of drug substance usually of a tough fibrous nature by the aid of knives, is a process now seldom employed. However, a *fresh* root is occasionally thus treated, better fitting it for the mortar, and, not unfrequently there also occurs a necessity for the slicing of a *dry* root before submitting it to the action of the mill.

73. *Rasping*, a process employed in the reduction of such substances as are hard, dense or compact, is accomplished by the use of a rough file.

74. The *coarse* comminution of drugs, particularly those possessing corrosive properties, is usually effected by *grinding*.

75. In the *minute* division of drugs, a greater degree of fineness is attained by a process termed *trituration*. Substances which can not be otherwise further reduced, may be triturated; as may also be the reduction of *drug quantity* through its admixture with any inert substance. The process of trituration is usually performed in a porcelain mortar (Paragraph 28), the left hand holding the mortar, the right grasping the pestle to which implement it gives pressure and at the same time a rotary or circular motion.

76. Where the quantities to be triturated are large, the mortar may be made stationary; a short bench is provided, the ends of which extend perpendicularly from the floor upward about four feet, across which, placed vertically, extending from one to the other, there is a narrow strip of wood; the mortar is now placed in a circular opening in the bench especially made to receive it, and the pestle with its elongated handle is passed through the opening in the vertical piece above, which is, however, made exactly over the center of the mortar below, thus completing an arrangement that makes the process less tedious and fatiguing.

77. *Levigation* differs from trituration in the following manner: The substance operated upon is first treated with a small

portion of alcohol or water, and then, thus forming a paste, it is rubbed until a sufficient degree of *fineness* is attained.

78. *Elutriation* consists in separating the coarser particles of a powdered substance from the finer; but of such substances *only* as are not acted upon by either alcohol or water. The powdered substance is simply agitated in any convenient quantity of water and being left to subside, the heavier particles settling first, the lighter portion, or supernatant fluid, is then poured off; this in turn again being left to subside, or being filtered, secures the *finer* particles separated from the coarse.

79. *Granulation* ordinarily refers to the mechanical division of metals. It is a process that is accomplished by pouring the melted metal into a small wooden box, the inner surface of which, first, is treated with powdered chalk, or else being made thoroughly wet with water, is afterwards rapidly shaken until the metal has chilled. When a metal is thus granulated in the presence of chalk, it must be subsequently treated with *water* in order to free it from the adherent particles which are likely to fill the many interstices of the granulated metal.

80. *Decantation* is effected with vessels of all kinds; however, more conveniently with those which are provided with a properly formed lip. When the vessel is large and its sides perpendicular, and it is without a lip, the fluid contents can then be decanted by *greasing* that portion of the rim over which it may be designed to flow the liquid, thereby preventing adhesion and thus causing the fluid to flow in a small cylindrical stream. The process with smaller vessels, more particularly with those that are shallow, may be performed by placing one end of a glass rod in the receiving vessel, and then, while the rod is being held vertically, the stream is to be directed along the rod into the receiver below.

81. The process of decantation can also be accomplished by "siphoning." "The siphon is a tube bent so as to form two legs inclined toward each other at about the same angle as the two limbs of the letter V; being rounded, however, at the place where it is bent. One of the legs must be shorter than its fellow. By filling the siphon with some of the liquid to be decanted, and then placing the short leg into the fluid, the liquid will discharge itself from the end of the longer leg, and will continue to flow as long as this end of the tube is below the

level of the fluid in which the other end is immersed."—*King.*

82. In the removal of small quantities of fluid, possibly from the surface of precipitates, an instrument known as a *pipette,* is frequently used. The pipette is a slender glass tube, one end of which is drawn to a point and through which there is an orifice. The pipette is used by holding it between the thumb and second finger with the forefinger over the larger end, thus confining the air within the tube, and so preventing the fluid from entering it; or, the finger being removed from the larger end, and the air being displaced by the fluid now entering it, is retained by atmospheric pressure caused by replacing the finger over the larger end from which it was at first removed.

83. *Filtration* is a process which is employed in separating a fluid substance from a solid. Filters are prepared from such substances as are not liable to be acted upon chemically by the substance for which they are intended. "Fats, resins, wax and oils, are strained through cotton or linen cloth spread evenly over a piece of wire-cloth or net stretched in a frame."—*King.* "For saccharine and mucilaginous liquors, fine flannel may be used; for some saline solutions, linen."—*Coxe.* Acid and alkaline solutions, such as would be likely to exert chemical action on the ordinary organic filtering media, may be filtered through asbestos, silex or sand, or even through powdered glass or quartz.

84. "A *charcoal* filtering paper is now made, which serves the double purpose of clarifying and decolorizing liquids. It is prepared either by incorporating powdered animal charcoal with the pulp out of which the paper is made, or placing it, in the process of manufacture, between two layers of the pulp. As the charcoal diminishes the cohesion of the paper, a sheet of gauze is inserted in each piece, or in the center of each piece, when used as a filter, in order to give it strength at the apex when folded."—*U. S. Disp.*

85. *Expression* is performed when separating the last portions of a fluid preparation from the dregs. The solid residue is placed within the cylinder of a screw-press and pressure is brought to bear upon it gradually, by aid of the screw. "When recent medicinal plants are to be expressed for the purpose of obtaining their juices, etc., they should first be *beaten, ground* or *bruised;* and if they be somewhat dried, water or alcohol, ac-

cording to the nature of the liquid to be obtained, should be added to moisten and soften them."—*King.*

86. *Clarification* is to be effected when filtration, precipitation and decantation, have severally failed in freeing liquids from foreign matters which impair their transparency. "This is usually accomplished by mixing with the cold liquid, white of eggs, well beaten, with a little water, which on being heated coagulates and rises to the surface carrying with it all the impurities. The fluid may now be filtered or skimmed. Spirituous liquors are clarified without the assistance of heat by the means of isinglass dissolved in water, or of any albuminous fluid, as milk, which coagulates with the action of alcohol. In using *albumen* in the clarifying process, it must be remembered that it occasionally unites with some of the *active principles* of a liquid, and will separate them from the rest."—*King.*

87. "The vegetable acids will clarify many of the expressed juices; and the juice of sour cherries will cause the complete separation of the pectin of currant and raspberry juice, so as to fit them for syrups."—*U. S. Disp.*

88. "*Precipitation* is sometimes mechanical, as in the levigating and elutriating of chalk, and sometimes chemical, as in the preparation of the precipitated carbonate of lime by decomposing chloride of calcium. When a precipitant is directed to be added until no further precipitation takes place, the fact may be ascertained by taking a drop of the liquid on a glass plate, and trying it with the precipitant. The formation of a precipitate is oftentimes assisted by agitation, or by heat. The separation of the supernatant liquid from the precipitate is most effectually accomplished by means of a siphon. When the liquid is a saline solution, it is necessary to wash the precipitate until the water exhibits no trace of the salt. In doing this great care must be taken to select the purest and clearest water, and the ultimate drying of the precipitate must be performed in a filter, or on a porous stone."—*U. S. Disp.*

89. *Evaporation* is one of the most important—and therefore should be proceeded with carefully,—of all pharmaceutical operations. *Direct* heat has been known to so modify the active principles of organic matter as to have created a demand for special apparatus. Ordinarily, the process of evaporation is conducted over a water, steam or sand bath.

90. *Sublimation* is a process of collecting and subsequently depositing the vapors of volatile solids. The product when deposited, if compact, is termed a *sublimate;* but, if slightly cohering it is then called the "flowers" of its respective base. The apparatus for sublimation usually consists of a sand-bath over which there is inverted a second vessel or into which there are placed two vessels, one inverted and fitting into the other, and between which there is fixed a perforated metal diaphragm or a piece of perforated cardboard.

91. *Percolation** "is the process of lixiviation, applied to pharmaceutical processes, under certain conditions and with certain objects which give it a somewhat distinctive character. It was first introduced into notice by the Messrs. Boullay, of Paris, in the year 1833, and, though received at first with some hesitation, has now come into almost universal adoption, and is officinally recognized as an important agency both in the United States and British Pharmacopœias. The principle of the process is, that a permeable powder, consisting partly of soluble, and partly of insoluble substances, when submitted in a cylindrical or conical instrument, open at top and partly closed by a porous material at bottom, to the action of a menstruum poured upon it, yields its soluble parts to the liquid, which, in its descent by its own gravity or by pressure from the liquid above, becomes more or less saturated, and in this state escapes beneath without mingling in its passage through the powder, or but in a slight degree, with the liquid pressing upon it from above. If the menstruum be supposed to be in layers in the powder, the lower layers are pressed downward or displaced by the upper with little admixture, so that they severally escape from the instrument with the degree of concentration acquired in their passage; and each suc-

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* A receiver, alleged to be of German origin, possessing the following advantages, is now procurable. It is simply a flint glass bottle, variable in capacity, holding sixteen, thirty-two, or sixty-four fluid ounces, which, being provided with a tubulature or second neck and mouth is used as follows:—The neck or tube end of the percolator—or, a glass funnel may be used— is inserted into the mouth of the receiver, fitting closely; when the suction end of the rubber tube of a bulb syringe is drawn over the second tubulature through which, by the aid of the bulb, the air is then extracted. The vacuum thus created causes an increased downward pressure, and, thereby, a more rapid and thorough exhaustion of the medicinal properties without any great loss of alcohol by the usual evaporation.

cessive layer is less and less impregnated, until the powder is at length exhausted, and the liquid last added passes in the state in which it enters. Now, what is true of one liquid is true of different liquids; and if a particular liquid be first added, and then followed by a second, the two do not mingle, and the latter takes from the former little or nothing of what it may have dissolved. Thus, if alcohol or ether be first introduced, and then followed by water, the alcoholic or ethereal solution formed may all be displaced by water without being to any considerable extent diluted with it. The idea was at one time entertained that there was absolutely no intermixture or next to none; but experience has shown that this was not exactly true, and that there is in fact a slight mixture of the successive and contiguous layers."—*U. S. Disp.*

92. "A little reflection will show, what abundant trial has proved, that this method has advantages, in various ways, *over that of simple mixture of the solid and liquid, however this may be aided by other agencies, as by agitation, heat, and expression.* In the first place, the particles of the menstruum are brought more thoroughly into contact with those to be acted on, and each successive layer of the liquid comes into contact with the solid *with a higher solvent power than that which it has displaced;* so that the powder is both more *rapidly* and more *thoroughly* exhausted. In the second place, as the liquid which first passes is saturated or nearly so before it escapes, highly concentrated solutions may be obtained with great facility; and, each successive portion being less and less saturated, it is possible in this way to separate the stronger from the feebler portions, which is sometimes an object of great practical importance. Thirdly, the last particle of dissolved matter may be obtained by displacing the liquid by another menstruum or an additional portion of the same, and great waste thus avoided; and though the same object may be accomplished to a great extent by expression, the method of displacement is both more thorough and convenient. Fourthly, by the employment of a cheaper menstruum as the displacing agent, considerable loss may be saved in obtaining solutions in which the menstruum is very costly. A single example will serve to show the value of this process. The Messrs. Boullay, by subjecting four ounces of bruised cinchona to per-

colation with half a pint of water, and then adding four half pints in succession, obtained the following results:

1st	half-pint	yielded	3 drs.	48 grs.	dry	extract.
2d	"	"	1 "	5 "	"	"
3d	"	"		15 "	"	"
4th	"	"		9 "	"	"
5th	"	"		7 "	"	"

—*U. S. Disp.*

93. An *infusion* is simply the result of having subjected a medicinal substance containing soluble principles to the action of water. When prepared hot, infusions are usually made with *boiling* water. Ordinarily, in point of strength, the cold infusions are *best;* they are prepared with cold water and hence necessarily require several hours to attain the full strength of the drug.

94. The processes respectively termed *maceration* and *digestion* differ with one another only in being subjected to, and performed in, different degrees of temperature. The first is the action of a suitable menstruum upon medicinal plants for a limited time, at a temperature from 60° to 90° F., while the second is performed at a heat from 90° to 100°, or when exceeding this, always *below* the boiling point. The latter process is conducted in glass bottles or flasks—by aid of a water-bath—and over an even fire.

95. Right here it is proper to call attention to a commonplace method of extracting the medicinal properties of plants, namely, to the practice of *boiling* them; the product in this instance being termed a decoction (?). As a matter of fact it should be remembered that such methods are oftentimes disadvantageously used; that the degree of heat to which the medicinal substance is frequently submitted is not only excessive, but being excessive, it actually *destroys* the medicinal properties of the drug. "*Decoctions* are generally prepared from those articles which do not readily yield their active constituents to water at a temperature below 212° F.; yet it must be remembered, that as most plants contain starch, gum, and other inert matters, which are readily soluble in water, these several substances will generally be found associated with remedial principles in a decoction. Medicines containing *volatile* principles, or principles which are *changed* into insoluble and inert matters at a *boiling* heat, should

never be subjected to decoction. * * * * When, however, the process of decoction is determined upon, the medicinal ingredients should be *sliced*, *bruised* or *powdered*, according to their character, and placed in an earthenware, glass, or iron vessel, of suitable size, the latter being lined internally with porcelain. In most instances, tin vessels may be employed, but copper, brass, iron, zinc or glazed earthenware vessels, on account of their liability to oxidation or incompatibility with some of the active principles, as tannic acid with iron, etc., are apt to prove injurious, and *should not*, therefore, be used. The water employed should be pure and clean, and the boiling should not be carried on for *too long* a period. During the boiling the vessel should be kept covered, so as to exclude as much as possible the presence of air, the action of which is very apt to materially impair the medicinal principles held in solution."—*King.*

CHAPTER IV.

The Solvents.*

96. The two solvents most frequently used in pharmacy are—ALCOHOL and WATER. Besides these, however, there are other solvents occasionally used, namely:—ETHER, CHLOROFORM, GLYCERINE, and OLEIC ACID.

97. **Spiritus Rectificatus—Rectified Spirits.—Alcohol** "is a colorless, transparent, volatile liquid of a penetrating, agreeable odor and burning taste. It should be free from foreign odor, which, when present, is owing to fusel oil. When free from water, it is called *anhydrous* or *absolute* alcohol. It is inflammable, and burns without smoke or residue, forming water and carbonic acid. Its flame is *bluish* when strong but *yellowish* when weak. It combines in all proportions with water and ether; and, when

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* A solvent is a fluid substance in which various solid substances do not possess the property of resisting solution.

diluted with distilled water, preserves its transparency. Its density varies with the proportion of water it contains. When of the specific gravity .820, its boiling point is at 176° F. Its value depends upon the quantity of *absolute alcohol* contained in it; and, as this is greater in proportion as the specific gravity is less, it is found convenient to take the density of a sample in estimating its strength. This is done by instruments called *hydrometers,* which, when allowed to float in the spirit, sink deeper into it in proportion as it is lighter."—*U. S. Disp.*

98. "Each hydrometer strength has a corresponding *specific gravity,* and by referring to tables constructed for the purpose the *percentage* of absolute alcohol is at once shown."—*U. S. Disp.*

99. The specific gravity of different mixtures by *weight* of absolute alcohol and distilled water, at the temperature of 60° F., is here given:

100 PARTS.		SP. GR.	100 PARTS.		SP. GR.	100 PARTS.		SP. GR.	100 PARTS.		SP. GR.
Alc.	Wat.	at 60°	Alc.	Wat.	at 60°	Alc.	Wat.	at 60°	Alc.	Wat.	at 60°
100	0	'796*a*	76	24	'857	52	48	'912	28	72	'962
99	1	'878	75	25	'860	51	49	'915	27	73	'963
98	2	'801	74	26	'863	50	50	'917	26	74	'965
97	3	'804	73	27	'865	49	51	'920*f*	25	75	'967
96	4	'807	72	28	'867	48	52	'922	24	76	'968
95	5	'809	71	29	'870	47	53	'924	23	77	'970
94	6	'812	70	30	'871	46	54	'926	22	78	'972
93	7	'815	69	31	'874	45	55	'928	21	79	'973
92	8	'817*b*	68	32	'875	44	56	'930	20	80	'974
91	9	'820	67	33	'879	43	57	'933	19	81	'975
90	10	'822	66	34	'880	42	58	'935	18	82	'977
89	11	'825*c*	65	35	'883	41	59	'937	17	83	'978
88	12	'827	64	36	'886	40	60	'939	16	84	'979
87	13	'830	63	37	'889	39	61	941*g*	15	85	'981
86	14	'832	62	38	'891	38	62	'943	14	86	'982
85	15	'835*d*	61	39	'893	37	63	'945	13	87	'984
84	16	'838*e*	60	40	'896	36	64	'947	12	88	'986
83	17	'840	59	41	'899	35	65	'949	11	89	'987
82	18	'843	58	42	'900	34	66	'951	10	90	'988
81	19	'846	57	43	'903	33	67	'953	9	91	'989
80	20	'848	56	44	'904	32	68	'955	8	92	'990
79	21	'851	55	45	'906	31	69	'957	7	93	'991
78	22	'853	54	46	'908	30	70	'958	6	94	'992
77	23	'855	53	47	'910	29	71	'960			

a Absolute Alcohol.
b Alcohol Fortius; Strong Alcohol, U. S.
c Lightest spirit obtained by ordinary distillation.
d Alcohol, U. S.
e Spiritus Rectificatus, Br.
f Spiritus Tenuior, Proof Spirit, Br.
g Alcohol Dilutum, U. S.

100. "Alcohol is capable of dissolving a great number of substances; as, for example, sulphur and phosphorus in small quantity; iodine and ammonia freely; and potassa, soda, and lithia in the *caustic* state, but not as *carbonates*."—*U. S. Disp.*

101. "Among organic substances it is a solvent of the organic vegetable alkalies, urea, tannic acid, sugar, mannite, camphor, resins, balsams, volatile oils and soap. It dissolves the fixed oils sparingly, except castor oil, which is abundantly soluble. It acts on most acids, forming ethers with some, and effecting the solution of others."—*U. S. Disp.*

102. "All deliquescent salts are soluble in alcohol, except *carbonate of potassa;* while the efflorescent salts and those either insoluble or sparingly soluble in water are mostly insoluble in it. It dissolves muriate of ammonia, and most of the chlorides that are readily soluble in water; also some nitrates, but none of the *metallic* sulphates."—*U. S. Disp.*

103. *Amylic alcohol,* fusel oil, or grain oil, can be readily detected in the following manner: Fill a test tube half full of the spirit to be tested, then slowly add *pure concentrated sulphuric acid* until the tube is nearly full, when, after a short time, if fusel oil is present, a *pinkish-colored* zone will be seen dividing the two liquids. The quantity of fusel oil present will be approximately indicated by the greater or less depth of color.

104. The fusel oil may be removed from alcohol by the use of rectifiers' charcoal. Place a convenient quantity of the charcoal in a "corn-popper" and fire it to a *red* heat; then, while the coal is *all of a glow,* plunge it into the alcohol, remove in a moment or two, fire again, etc., until all traces of the amylic alcohol have disappeared;—a fact that may be readily determined by an application of the test above given.

105. The commercial alcohol when thus treated, and subsequently filtered, is *sufficiently* pure for all pharmaceutical purposes and is not to be further benefited or improved by re-distillation unless *absolute* alcohol is required. Even *very small quantities of water* may be detected in absolute alcohol; coloration occurring at *once* upon the addition of a crystal of *permanganate of potassa.*

106. **Aqua Destillata—Distilled Water.**—"The term *aqua,* in the U. S. and Br. Pharmacopœias, may be considered as des-

ignating any natural water of good quality. A good water may be known by being limpid and inodorous. It answers well for cooking, and does not curdle soap. Upon the addition of *nitrate of baryta*, *nitrate of silver*, or *oxalate of ammonia*, its transparency is but slightly affected; and, upon being evaporated to dryness, it leaves but an inconsiderable residue."—*U. S. Disp.*

107. "The *purest* water that can be obtained is *distilled water*, which, when properly prepared in clean glass vessels, is colorless, transparent, scarcely compressible, tasteless and inodorous, with the assumed specific gravity 1, being the standard to which the specific gravity of liquids and solids are referred."—*King.*

108. "It is the only *admissible* water for pharmaceutical and chemical tests, as the presence of organic or saline substances in it may decompose the articles to be dissolved, or impair its solvent power. At a temperature of 32° F., or lower, it is converted into ice; boils at 212° F., and is converted into steam. Its crystallization into ice is accompanied with expansion, and the specific gravity of ice is .916; the volume of steam is about one thousand seven hundred times more than that of water, and its specific gravity is .622. Water is perfectly neutral, exhibiting neither acid or basic properties, though capable of combining with each, and increasing their activity, and the compounds thus formed are called *hydrates*. It likewise readily combines with many gaseous bodies, giving to them fluid form. As a general rule its solvent powers are increased by heat, especially in regard to solid bodies."—*King.*

109. "Distilled water should undergo *no change* by sulphuretted hydrogen, or on the addition of tincture of soap, subacetate of lead, chloride of barium, oxalate of ammonia, nitrate of silver or lime-water, and should evaporate without residue."—*U. S. Disp.*

110. Being sometimes *contaminated* by the metallic salts, derived from the vessel used in the process of distillation, it should be further tested for the presence of *iron*, *copper*, *zinc* and *lead.* A few drops of a solution of ferrocyanide of potassium—one part to fifteen or twenty of distilled water—added to a drachm or two of the suspected liquid, will, if iron be present in the form of a persalt give a *blue* color; if zinc or lead are present there will be a *white* precipitate, which will subsequently change to a *yel-*

low—if it be lead—upon the addition of iodide of potassium; if a copper salt is present the reaction will then be made manifest by the appearance of a *mauve* or *wine-colored* precipitate, the *cyanide of copper.*

111. Distilled water is required as the *solvent* for nitrate of silver, tartar emetic, corrosive sublimate, acetate and sub-acetate of lead, chlorides of barium and calcium, the sulphates of iron and zinc, permanganate of potassa, sulphate, muriate and acetate of morphia, sulphate of quinia, and the several alkaloids and their salts.

112. The purest natural waters are rain-water—*aqua pluvia*—and snow-water—*aqua nivis.* These collected in a perfectly clean vessel, in an open field at a distance from human habitations, are almost if not wholly free from both organic and inorganic impurities; hence, these waters are unquestionably the best for the purpose of distillation.

113. "B. M. Brackenridge and Dr. E. Stieren observed—1860—chemically pure water in the spring of a ravine known as 'the dark hollow' in Allegheny Co., Pa."—*Nat. Disp.*

114. "Rain-water ordinarily contains atmospheric air; and, according to Liebig, a little nitric acid, the amount of which is increased when the rain descends during a storm. According to an analysis made by M. Martin of rain-water which fell at Marseilles during a violent storm, one thousand parts by weight contained 0·004 of chlorine and 0·003 of ammonia. Not a trace of iodine or of nitric acid was discovered. Boussingault has ascertained that the rain which falls in towns contains considerably more ammonia than that which falls in the country. Thus, the rain of Paris was found by him to contain three or four parts of ammonia per million; while that collected in a mountainous region contained about four-fifths of one part only in a million."—*U. S. Disp.*

115. To obtain water which is *absolutely pure,* it is only necessary, as already stated, to distil it; and any process involving any form of mechanism that shall yield a product which is uncontaminated, and therefore gives no *chemical reaction,* is sufficiently good for the purpose.

116. **Æther—Æther Sulphuricus—Sulphuric Ether—Hydrate of Ethylen—Oxide of Ethyl** "should have the specific

gravity '750, and, if heavier than this must contain too much alcohol or water. When shaken with an equal bulk of water it should not lose more than from one-fifth to one-fourth of its volume. The statement that water takes up *only* one-tenth has been shown by Dr. Squibb to be erroneous. If it takes up *more* than one-fourth the ether must contain too much of alcohol or of water, or both. If the alcohol be in excess, it may be removed by agitating the liquid with twice its bulk of water, which unites with the alcohol, forming a heavier stratum, from which the ether may be poured off. The ether, however, takes up *about* one-tenth of water, which may be removed by agitation with fresh-burned lime, and subsequent distillation."—*U. S. Disp.*

117. "An easy method for *detecting* and *measuring* any alcohol present in ether, was given by the Edinburgh College; namely, to agitate it in a minim measure with half its volume of a concentrated solution of chloride of calcium. This will remove the alcohol; and the reduction of the volume of the ether, when it rises to the surface, will indicate the amount."—*U. S. Disp.*

118. "Heavy oil of wine may be discovered by the ether becoming *milky* upon being mixed with water."—*U. S. Disp.*

119. "If the ether is *pure*, it wholly evaporates in the air, leaving no residue. All non-volatile impurities are thus detected. It should not redden litmus, showing the absence of acids. The point of ebullition—98°—is also an indication of the strength of ether."—*U. S. Disp.*

120. "A test tube full of ether, should, when held in the closed hand, begin to *boil* on the addition of a piece of broken glass."—*Squibb.*

121. "When evaporated from bibulous paper, it should offer only a *slight* degree of foreign odor, aromatic and free from pungency, and should leave the paper, when dry, *nearly* or *quite* odorless. This test proves the absence of volatile impurities, except a slight and not inadmissible proportion of light oil of wine."—*Squibb.*

122. **Æther Fortior—Stronger Ether**—Pure ether "is a colorless, very limpid liquid, of a strong and sweet odor and hot pungent taste. When perfectly pure it has the specific gravity '713, boils at 95°, and forms a vapor which has the density of

2.586. It is not frozen by a cold of 116° below zero. It is a very volatile liquid, and, when of the specific gravity '720, boils at about 98°. Its extreme volatility causes it to evaporate speedily in the open air, with the production of considerable cold. Its inflammability is very great, and the products of its combustion are water and carbonic acid. In consequence of this property, the greatest care should be used not to bring it in the vicinity of flame; as, for example, a lighted candle. When too long kept it undergoes decomposition, and is converted in part into acetic acid."—*U. S. Disp.*

123. "It dissolves iodine and bromine freely, and sulphur and phosphorus sparingly. Its power to dissolve corrosive sublimate makes it a useful agent in the manipulations for detecting that poison."—*U. S. Disp.*

124. **Chloroformum Purificatum—Chloroform** "is a limpid, colorless, volatile, neuter liquid, having a bland etheral odor and hot, aromatic, saccharine taste. It neither reddens nor bleaches litmus paper. It is but slightly soluble in water; one hundred parts of that liquid taking up but one part of chloroform. Its specific gravity is from 1'49 to 1'494 U. S., 1'496 Br.; but when of this it contains a small proportion of alcohol. Gregory has obtained it of the density 1'5 at 60°. It boils at 104°. It is not inflammable, but renders the flame of an alcohol lamp *yellowish* and fuliginous. It burns, however, with a *smoky* flame when mixed with an equal volume of alcohol. When pure it has no action on potassium except to cover the surface of the metal with bubbles of gas."—*U. S. Disp.*

125. "Chloroform is a powerful antiseptic. It does not, like creosote, coagulate albumen. It is scarcely acted on by sulphuric acid in the cold, but dissolves readily in alcohol and ether. The alcoholic solution, when moderately diluted with water, forms an aromatic, saccharine liquid of a very grateful taste."—*U. S. Disp.*

126. "A strong alcoholic solution is decomposed by abundance of water, the chloroform separating and subsiding and the alcohol uniting with the water. It is liable to decomposition by sunlight, or even diffused daylight; and hence the propriety of keeping it in bottles covered with dark paper in a rather dark place."—*U. S. Disp.*

127. "Chloroform has extensive solvent powers, being capable of dissolving caoutchouc, gutta percha, mastic, elemi, tolu, benzine, and copal. Amber, sandrac, lac and wax are only partially soluble. It also dissolves iodine, bromine, the organic alkalies, the fixed and volatile oils, most resins and fats. It dissolves sulphur and phosphorus sparingly. It possesses the power of dissolving a large quantity of camphor, and furnishes the means of administering that medicine in an elegant form."—*U. S. Disp.*

128. "Styracin, piperin, napthalin, cholesterin and cantharidin are very soluble; picrotoxin slightly so; paraffin only when hot, separating as the liquid cools; while amygdaline, philoridzin, salicin, digitalin, cystisin, urea, hematin, gluten and sugar are insoluble."—*King.*

129. "Benzoic and hippuric acids are very soluble; tannic but slightly; and tartaric, citric, oxalic and gallic acids are insoluble."—*King.*

130. "Quinia, veratria, emetia, narcotina, nicotina, conia and atropia are easily soluble; strychnia with less readiness, and appears to undergo a change in its morphic condition; brucia is moderately soluble, but morphia and cinchonia are insoluble. Tartar emetic, citrate and lactate of iron, the acetates of soda and potassa, valerianate of zinc and acetate of lead are all insoluble. Sulphate and muriate of strychnia are soluble; while sulphates of quinia and of morphia and muriate of morphia are insoluble. Corrosive sublimate dissolves very readily, but the iodide, bromide, chloride and ferrocyanide of potassium, the chloride of sodium, muriate of ammonia and the iodides of mercury and potassium are all insoluble. The iodates, chlorates, nitrates, phosphates, sulphates, chromates and borates, arseniates, alkaline hyposulphates are insoluble, as are also nitrate of silver, sulphate of copper, and probably all the metallic oxysalts."—*King.*

131. According to A. Schlimpert—*Archiv der Pharmacie,* 1859—one hundred parts chloroform dissolve—

Aconitia	22.00	Quinia	15.00
Atropia	33.00	Quinia Muriate	11.00
Brucia	14.00	Quinia Sulphate	10.00
Caffein	11.00	Quinoidin—Amorphous Quinia	25.30
Cinchonia	2.50	Santonin	23.00
Cinchonia Sulphate	3.00	Santonin, impure	33.3
Digitalin	1.25	Strychnia	14.10
Morphia	1.66	Strychnia Nitrate	6.60
Morphia Acetate	1.66	Veratria	11.60

132. "One per cent of chloroform added to milk preserved it unchanged for one month, so that it boiled without coagulating."—*King.*

133. "Pettenkofer states that at the ordinary temperature one hundred parts of chloroform dissolves morphia 0.57 parts; narcotine, 31.17; cinchonine, 4.31; quinia, 57.47; strychnia, 20.16; brucia, 56.79; atropia, 51.49 veratria, 59.49."—*King.*

134. "Chloroform is liable to contain alcohol and ether, both of which lower its specific gravity. If it have a less density than 1'38 it will float instead of sinking in a mixture of equal weights of *concentrated sulphuric acid* and *water* after it has cooled."—*U. S. Disp.*

135. M. Mialhe has proposed the following test for the presence of alcohol: "Drop into *distilled water* a small quantity of the chloroform; if *pure*, it will remain *transparent* at the bottom of the glass; but, if it contain even a small proportion of *alcohol* the globules will acquire a *milky* appearance."—*U. S. Disp.*

136. M. Soubeiran suggested the following method for the detection of alcohol in chloroform, but it is alleged that it will not detect a smaller quantity than five or six per cent. "It consists in agitating the chloroform in a tube with oil of *sweet almonds*: the mixture remains *transparent* if the chloroform is free from alcohol; in the contrary case it becomes more or less *milky*."—*King.*

137. M. Soubeiran advises the following, also: "To equal parts by weight of *distilled water* and *sulphuric acid*—the mixture being of specific gravity 1'38—add one drop of the chloroform; if this be good it will *sink* in the mixture, but not without."—*King.*

138. "M. Roussin's method is extremely delicate, and consists in introducing several grammes of chloroform into a tube or stoppered bottle, then adding a few centigrammes of the *binitrosulphide of iron*, shaking the mixture and allowing it to settle. If the chloroform is pure it remains *clear* as water; but if it contains alcohol it assumes a *brown* tint more or less deep according to the proportion present."—*King.*

139. "This re-agent will also detect the presence of ether, aldehyd, methylic and amylic alcohols, it being very soluble in all these compounds."—*King.*

140. "The *binitro-sulphide of iron* is procured by mixing a solution of nitrate of potassa with sulphide of ammonium, then, while the mixture is being agitated, dropping in a solution of protosulphate of iron. The whole is boiled, evaporated to dryness, treated with alcoholized ether, filtered, and the solution crystallized."—*King.*

141. "Prof. Proctor detects alcohol by adding the suspected chloroform to an oxidizing mixture of *bichromate of potassa* and *sulphuric acid.* If alcohol be present, the deep orange color of the chromic mixture will gradually become *green;* if absent, *no change* of color will take place."—*U. S. Disp.*

142. "Chloroform is with difficulty kindled, and burns with a *greenish* flame. It is nearly insoluble in water, and is not affected by concentrated sulphuric acid. Alcoholic solution of potassa decomposes it, with production of *chloride of potassium* and *formate of potassa.*"—*Fowne.*

143. **Glycerinum—Glycerina—Glycerin—Glycerine** "is a thick syrupy liquid, either colorless or of a slight amber color, without smell when pure, unctuous to the touch, and of a very sweet taste. In properties it is intermediate between water and the oils. When exposed to the air it gradually absorbs moisture. Its specific gravity is 1'25 U. S.; 1'26 Br. According to Mr. G. F. Wilson, glycerin, when of the density of 1'24, contains 94 per cent of anhydrous glycerin; when of the density of 1'26, 98 per cent. It is soluble in all proportions in water and alcohol, but insoluble in ether."—*U. S. Disp.*

144. "Glycerin possesses extensive powers as a solvent, and is an excellent excipient for many medicinal substances. It dissolves bromine and iodine, the iodide of sulphur, the chlorides of potassium and sodium, the fixed alkalies, some of the alkaline earths, and a large number of neutral salts. It also dissolves the vegetable acids, particularly tannic acid, and either suspends or dissolves the vegetable alkalies."

145. "Many of the salts of the vegetable alkalies are soluble in it, forming convenient solutions for external application. Such solutions are now made for medicinal purposes with some of the salts of morphia, quinia, strychnia, veratria, and atropia. Prof. J. S. Blockey, of London, has ascertained that certain neuter vegetable substances are far more soluble in glycerin than in

water. Thus salicin dissolves in eight parts of cold glycerin, and santonin in eighteen parts when boiling. The latter solution, when of half of this strength, forms on cooling an almost solid mass."—*U. S. Disp.*

146. "Glycerin, next to alcohol, is the best solvent of iodine. Iodine and iodide of potassium, when dissolved in it, form *iodized glycerin.*"—*U. S. Disp.*

147. "Glycerin is not susceptible of becoming rancid, or of fermenting spontaneously; but will generate a portion of alcohol under the combined influence of chalk, and of a ferment formed of cheese or animal tissue. During this change there is no intermediate formation of glucose, provided carbonate of lime is present.—*Berthelot.* Glycerin does not evaporate when exposed to the air; nor can it be distilled without decomposition, unless in the presence of water or steam. When decomposed by heat, it emits extremely irritating vapors—*acrolein.* At a full red heat it takes fire, and burns with a blue flame."—*U. S. Disp.*

148. "Glycerin is antiseptic, and has been recommended by Mr. Warrington and M. Demarquay to preserve alimentary substances and objects of natural history, and to inject bodies for dissection. According to Dr. W. Frazer, it does not answer to keep pathological preparations; as they are completely softened by its action."—*U. S. Disp.*

149. "Glycerin was discovered by Scheele, who called it the *sweet principle* of oils and fats."—*King.*

150. "Glycerin dissolves the vegetable acids, aloes, some resinous substances, the deliquescent salts, the sulphates of potassa, soda, and copper, the nitrates of potassa, and silver, the alkaline chlorides, potassa, soda, baryta, strontia, bromine, iodine, and even oxide of lead, and *one-eighth* part of arsenious acid. It dissolves the salts of morphia, *one-tenth* of sulphate of quinia, and when triturated with these, or with the salts of strychnia, veratria, brucia, and other vegetable alkaloids, forms a cerate or medicinal oil—*glycerole*—very useful for frictions and embrocations."—*King.*

151. "It dissolves the carbonate of iron immediately on its formation, giving it a deep *green* solution. Like sugar it arrests the conversion of the protosalts of iron into persalts, and has kept iodide of iron for years without change."—*King.*

152. "Glycerin is sometimes deficient in density and consistency. According to M. Dalpiaz, it is sometimes perfectly colorless from being bleached by chlorine, when it is apt to contain *chloride of calcium* as well as free *chlorine.* The latter may be detected, first rendering the suspected sample slightly *blue,* by a few drops of *sulphate of indigo,* and then, adding a little *sulphuric acid,* when, if free chlorine be present, the blue color will disappear. Lime may be detected by *oxalate of ammonia;*[*] lead by *hydrosulphate of ammonia;*[†] and sulphuric acid by a soluble salt of *baryta.*[‡] Diluted, and boiled with a solution of *potassa,* it is not altered in color showing the *absence* of glucose. The absence of cane sugar is proved by the complete solubility of the glycerin in *chloroform* which does not dissolve *sugar;* also, if upon the addition of two drops of concentrated *sulphuric acid* and the application of heat no *brown* discoloration is observed."—*U. S. Disp.*

153. "Diluted with water, glycerin should give no precipitate with *hydrosulphate of ammonia,* or *ferrocynide of potassium,* showing the absence generally of *metallic salts.* If a drop should be rubbed on the hand *no odor* should be perceived. One volume of glycerin should *dissolve completely* in one volume of *alcohol,* acidulated with one per cent of *sulphuric acid,* without affording any precipitate of *sulphate of lime,* even after standing twenty-four hours."—*U. S. Disp.*

154. **Acidum Oleicum—Oleic Acid.**—"The *oleinate of glycly* is the *liquid principle* of oils, and is unknown in the native state. It is an oily fluid devoid of color, taste and odor, is partially dissolved by alcohol, but not by water, readily so by ether, and becomes solid at 20° F. It is convertible by *saponification* into glycerin and oleic acid, and, according to Saussure, is composed of carbon, 76; hydrogen, 11; oxygen, 12; Its present formula is stated to be C^{57}, H^{52}, O^{6}.—*King.*

155. "Oleic acid is obtained as a secondary product at the stearin candle factories, and may be prepared according to Bromeis—1842—by saponifying almond or olive oil with potassa, decomposing the soap with hydrochloric acid, combining the

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[*] White precipitate, oxalate of lime.

[†] Black precipitate, sulphide of lead.

[‡] White precipitate, sulphate of baryta.

fatty acids with lead by digesting with oxide of lead, dissolving the oleate of lead in ether and agitating the etheral solution with hydrochloric acid. On evaporating the ether oleic acid remains behind, which requires to be washed with water. In its *pure* state it is a *colorless* oily liquid which congeals to a *white crystalline* mass at 39.2° F., and fuses again at 57.2° F. When heated to a little above the boiling point of water, it rapidly acquires a *dark brown* color. As found in commerce, oleic acid is of a *yellow* color. Should it contain notable quantities of the solid fatty acids, it may be deprived of the greater part of them according to Ch. Rice—1873—by exposing it to a temperature of 40° F., and expressing the liquid portion."—*Nat. Disp.*

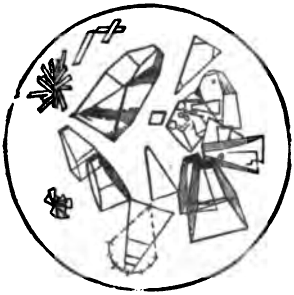
156. "Oleic acid much resembles olein in physical characters, being colorless and lighter than water; but it usually has a distinctly *acid* reaction, a *sharp* taste, and is miscible with alcohol in all proportions."—*Fowne.*

157. Oleic acid is a solvent for the vegetable alkaloids and their salts, and also dissolves many of the resins and volatile oils.

CHAPTER V.

The Vehicles.*

158. In pharmacy there are four forms of vehicles used, namely: MILK SUGAR, TRITURATION SUGAR, GLOBULES, and SUGAR DISCS,—LOZENGES.



Pure Milk Sugar Crystals.

159. **Saccharum Lactis—Lactin—Lactose—Sugar of Milk—Milk Sugar** is an animal product concentrated and crystallized from *whey.* The substance is *dimorphous;* crystallizing rapidly at a high temperature, the crystal partakes of the characteristics belonging to the lactates; but, when left to crystallize slowly at a low temperature, the crystal then presents a tri-metric appearance, which is, however, a hemi-octahedral formation. Its specific gravity is 1.54. It is soluble in five or six parts of cold, and in two and one-half parts of boiling water. It is slightly soluble in alcohol but quite insoluble in ether.

160. Milk sugar † is not susceptible of the vinous fermentation by the direct influence of yeast; but, after the action of dilute acids, which first convert it into *grape* sugar, it is capable of

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* A vehicle is simply a carrier of drug particles; an inert *substitute* for drug quantity.

† The sugar of milk, like other fermentable sugars yields under the action of a ferment, as yeast, alcohol and carbonic acid. The same change takes place when the ferment is added to the milk itself, as has been long known and practiced, the resulting liquid having received the name of *Koumiss.*—*Hassall.*

furnishing a spirituous liquor. "By the action of nitric acid, sugar of milk is converted into *mucic*—sacch-lactic—acid. When anhydrous it consists of $C^{12} H^{11} O^{11}$; when crystallized, of $C^{12} H^{11} O_1^1 + HO$.—*Staedler and Kause.* These formulas make anhydrous sugar of milk isomeric with *cane* sugar, and the crystallized with anhydrous *grape* sugar."—*U. S. Disp.*

161. It is a well-known fact that milk sugar is an all-important excipient with the homœopathic physician; that the milk sugar used by him is an imported article, and, that it is particularly designated as "German Sugar of Milk."*

162. An aqueous solution of milk sugar when pure, is perfectly colorless and transparent, and actually free from all sediment. If the solution is *opaque*, or of a *mucilaginous* appearance, it probably contains starch; which fact is easily demonstrated by boiling it for a moment and then treating it with a drop or two of the tincture of iodine.

163. Starch freshly iodized is *blue* in color; but, when the quantity of iodine used is large and the quantity of starch present is *small*, the discovery of the starch will be much easier if made with the microscope.

164. If either sulphate of lime—*gypsum*—or terra alba—*white earth*—is present in the solution, it will settle to the bottom of the test tube where subsequently it may be identified by decanting the fluid and treating the sediment with hydrochloric—*muriatic*—acid. If the precipitate dissolves readily it is unquestionably *sulphate of lime*; "terra alba" being insoluble in hydrochloric acid.

165. F. Lenggenhager in answer to a private letter, asking for an explanation "Why no sugar of milk can be made in this country,"—America, says: "In that part of Switzerland where I am from this article is produced on a large scale, and still more so in the interior districts—Cantons—of the same country, by common mountaineers who neither know of complicated processes nor employ them. In my early boyhood I was many an

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* "Sugar of milk has been proposed by Dr. Turnbull, of England, as a non-nitrogenous article of diet in consumption and other pulmonary diseases. Dr. Ruschenberger used it with good effect as nourishment in a case of extreme irritability of the stomach, following profuse loss of blood from menorrhagia."—*Translation of the Philadelphia College of Physicians.*

hour busy—as a punishment for some misbehavior—in stretching strings upon which the sugar was to crystallize in long, cylindrical, coarse-grained masses. The whole process is simply an evaporation of the whey remaining from the manufacture of cheese without any further preparation, and a crystallization and re-crystallization of the article thus obtained. The whole success depends entirely on the richness of the milk, which is by far superior in Switzerland, and on the kind of whey and its condition when it enters the evaporating vats. * * * * *
In Switzerland, and adjacent countries, cheese always was and still is made in the old well-established way, namely, by separating the caseine by the means of well and carefully-prepared pieces of the stomach of half-grown calves. The stomachs are cleaned, dried, and slowly smoked over a fire made exclusively with green juniper-wood. Salting them is also in general used. Here is a point on which theory and practice differ. Theory says it is only the creosote of the smoke that acts on the milk, and thus the smoke from any green wood ought to answer. But the usage of centuries and numerous experiments by competent observers establish the fact that *juniper* smoke is necessary to produce a good *fragrant* cheese, or, to begin with, a thoroughly reliable 'Lab'—rennet—by which the caseine is to be separated. All agree, besides, that the stomachs must come from half-grown calves. When from animals too young, they possess none or but little coagulating power, just as the veal from these, as sometimes seen in this country, is most unsubstantial. This 'Lab,' well and carefully selected and prepared, has an astonishing power in coagulating milk. One part by weight suffices to work up four to six thousand parts of milk. Its active principle is not exactly known, but it seems to act in converting a small quantity of the sugar of milk into lactic acid, and *this acid it is* that causes the caseine to separate. It is totally erroneous, as in WOOD and BACHE'S DISPENSATORY, to say that sulphuric acid is used in Switzerland to coagulate the milk in the manufacture of milk sugar. All mineral and most organic acids, though they precipitate *together with the caseine*, impart to the supernatant whey a tendency to undergo a chemical change by the long-continued application of heat necessary to evaporate the liquid to crystallization. This tendency must affect also the separated caseine, in what way is not very clear; but it is a fac

that cheese produced by artificial 'rennets'—all of them made up with some acid—never is what a connoisseur would call either a good cheese or a poor one. * * * * By the action of such acids or 'rennets,' a molecular motion seems to be started which resembles that caused by diastase on starch. Its effect is to gradually convert the sugar of milk into grape sugar and several mucous derivatives, and, finally, after much labor and trouble, you can not bring out a 'crop' of milk sugar from a whey thus treated. By evaporation you obtain a liquor which contains all the above-mentioned new products and *all the mineral salts of the milk.* But in such a menstruum the remaining sugar of milk *can not* crystallize, at least not in the form adapted to further manipulation which will produce a good, marketable article. 'Lab' on the other hand, leaves no injurious tendency whatever, and brings out a clear, easily manageable whey, having thrown down *with the caseine* a large proportion of the mineral salts of the milk. To sum up, you will never succeed in making milk sugar in this country as long as cheese is produced by artificial 'rennets,' and such cheese, in its turn, will never stand a comparison with what mountaineers and connoisseurs call an excellent or even a fair article. I would be the last one to oppose *real* improvements in any industry; but when well-established practical experience speaks clearly, theories and hobbies must be discarded."—*The Druggists' Circular and Chemical Gazette.*

166. **Saccharum Contritio—Saccharum Tritura—Trituration Sugar—Prescription Sugar** is an admixture of—

Powdered Cane Sugar	*Twelve Parts,*
Milk Sugar	*Two Parts,*
Corn Starch	*Two Parts,*

—used as a substitute for milk sugar in triturating such medicinal substances as do not undergo decomposition or change in the presence of starch or cane sugar. The cane sugar here used —the kind to be preferred—is the "Confectioners' A" or "Lozenge" sugar; this is less liable to adulteration than is the common powdered sugar in which there is oftentimes found *starch, terra alba,* and *grape sugar.*

167. To test the purity of cane sugar, or for the presence of the adulterants just named, make a solution of the sugar and proceed as directed in Paragraphs 163-4 and 175; to a portion of

Haines' Solution of Copper,* in a test-tube, add a few drops of the sugar solution, and heat carefully over an alcohol flame—spirit lamp;—if *grape* sugar is present the *blue* color will gradually change with the increasing temperature, first, to an *orange* color and then to a *scarlet red;* subsequently, if allowed to stand a few moments the copper being now oxidized will precipitate in the form of a sub-oxide.

168. **Pilulæ Saccharum, Globules, Pellets, Sugar Pills**—are made from cane sugar *syrup* prepared according to the following formula:

Refined Sugar	*Five Parts.*
Water.	*Three Parts.*
Cream of Tartar	*One Sixty-fourth Part.*

The syrup is made by the aid of heat. The cream of tartar is first dissolved in the water, afterwards the sugar is added, and then the temperature of the solution is raised to the boiling point. In the process, a portion of the cane sugar is converted by the cream of tartar into *inverted sugar;* which, being present, although in so small a quantity, when used for making pills *prevents them from hardening.* This feature, so very desirable in the manufacture of the homœopathic globule, is also accomplished by the use of dry starch; it is thrown into the pan from time to time during the process of pill-making, in powdered form, the exact quantity used varying with the will of the manipulator. When made from pure cane sugar alone, starch is thus employed to make the pill *soft* and *porous.*

169. Milk sugar *might* become a constituent of the homœopathic globule, were it advisable, but, when added to a solution of pure sugar or when dissolved with it, it *retards* the power of absorption; it makes the pellet both *hard* and *compact,* and therefore impervious to fluids. Where milk sugar is introduced alone without cream of tartar or glucose, starch *must* be added.

170. The process of manufacturing homœopathic globules is as follows: Granulated sugar—*not pulverized*—is first introduced into a large copper pan which is evenly heated by steam, and is

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* ℞ Cupric Sulphate	*Thirty Grains.*
Pot. Hydrate	*Ninety Grains.*
Glycerin	*Two Fluidrachms.*
Aq. Distillata	*Six Fluidounces.*

—*Prof. W. S. Haines, Rush Medical College.*

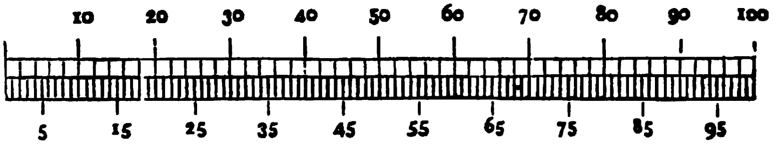
made to revolve slowly and continuously; into this pan from time to time the syrup is carried; the syrup is *poured* in quantities *only* sufficient to cover the globules at each successive hardening. The process is thus continued, the globules progressively increasing in diameter in proportion to the original size of the respective grain; finally, the globules are made to pass, first, through the meshes of a sieve measuring *five* millimeters, that is, those which will readily pass; and then those that are left through the meshes of a sieve measuring *ten* millimeters; and so on until those measuring *eighty* millimeters are reached.

171. Globules are also made by hand; that is, in a "hand pan" over a charcoal fire. A copper pan being suspended, the sugar is put into it, the syrup added as already described, and the pan is then given a rotary motion.

Pharmacy!

172. The American Institute of Homœopathy, June, 1868, thought it advisable to adopt some method of designating the sizes of both globules and vials. The *millimeter* was adopted as the standard measurement. It was:—

> "*Resolved*, That in designating the size of the Globules, the measurement of *ten diameters*, in millimeters, shall be the number by which they are known."

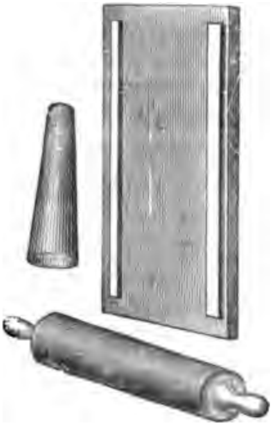


173. Ten diameters, in millimeters, means the measurement of a *line* of pellets, ten in number, of any one size, placed side by side; that is to say—ten of the globules, for instance, of those designated No. 80 placed side by side measure over all, from first to last, *eighty* millimeters. Or, singly, each has a diameter of *eight* millimeters. The diameter of a No. 5 globule is *one-half* millimeter; of a No. 10, *one* millimeter; of a No. 15, *one* and *one-half* millimeters; of a No. 20, *two* millimeters; of a No. 25, *two* and *one-half* millimeters; of a No. 30, *three* millimeters; of a No. 35, *three* and *one-half* millimeters; of a No. 40, *four* millimeters; of a No. 50, *five* millimeters; of a No. 60, *six* millimeters; of a No. 70, *seven* millimeters; and of No. 80, *eight* millimeters.

174. Pure sugar globules are wholly soluble in water. They dissolve without sediment, leaving the solution transparent and

clear. If the globules contain starch the solution at once becomes milky; and subsequently it becomes *blue* upon the addition of a single drop of the tincture of iodine.

175. In testing the solution for inverted sugar—with the copper solution—to determine, when found, if it is milk sugar or if it is glucose, it becomes necessary to evaporate the solution that *re-crystallization* shall occur. If the inverted sugar is *glucose*, cane sugar crystals alone will crystallize out.



176. **Trochisci—Troches—Tabellæ—Tablets—Lozenges—** are flat circular discs or oblong tablets of cane sugar made by the confectioner by mixing the sugar with one or more mucilaginous substances forming a "dough," which is rolled out with a common rolling-pin between two thin parallel rules of *even* thickness, and cut with a punch made for the purpose. When made plain, that is, without incorporating any medicinal substance, the lozenge or troche is both useful and convenient as a *carrier* of medicinal substance in *fluid* form. Such lozenges might be properly termed "*saturates.*"

177. The *plain* lozenge is composed of—

Powdered Cane Sugar	*Nine Parts.*
Glucose	*Three-fourths Part.*
Gum Tragacanth—selected	*One-fourth Part.*

These substances are mixed and made into a lozenge in the following manner: The gum tragacanth is put into a suitable vessel and covered with water where it is left until it is completely softened, forming a thick, smooth, viscid paste; it is then strained through muslin and thoroughly incorporated, first with the glucose and then with the sugar, forming a stiff "dough," after which the mass is rolled out and cut into lozenges as already described.

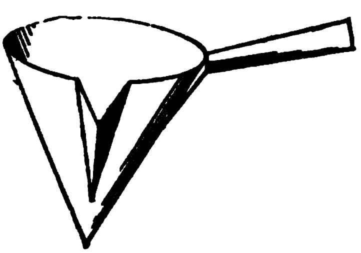
178. A lozenge weighing ten grains—*two* grains of which might be either of any one of the triturates—is very convenient for dispensing, as this quantity of the triturate ordinarily constitutes a dose. Such lozenges can be readily made by substi-

tuting two parts of the triturate for two parts of the sugar. For instance, to make a "Hepar Sulphur Troche," use—

Powdered Cane Sugar	*Eight Parts.*
Hepar Sulphur 2	*Two Parts.*
Mucilage Gum Tragacanth	*Q. S.*

and proceed as directed above. These lozenges might be very properly designated as the "*triturate*" lozenge. The "sufficient quantity" of mucilage here intended is about one-tenth of the weight of the other two ingredients combined; that is, eight ounces of sugar and two ounces of the second decimal trituration of sulphuret of lime require about one ounce of gum tragacanth *paste.*

179. In cutting lozenges—in order to secure desired weight—the diameter of the punch governs the thickness of the "dough." For a *ten-grain* lozenge, when proportionally made, the punch or cutter should measure one-half inch in diameter—inside measurement—and the "dough" should be rolled down to an even thickness of one-eighth of an inch. In kneading the "dough," powdered starch should be freely used to prevent the "dough" from adhering to the lozenge board.



180. Sugar Drops*—*Sugar Discs*(?)—may be made by boiling the syrup—Paragraph 168—to a "soft ball,"—that is to say, to a density where if removed from the vessel and rubbed between the thumb and finger it will roll up into a soft mass,—and adding lozenge sugar, until the consistency is such that it will "flow" only in drops. The hot syrup is then transferred to the dropper, and the mixture dropped *while hot on to a cold flat surface* of marble or porcelain.

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* Sugar Drops—improperly termed *Sugar Discs*—recently introduced to the notice of the medical profession, are a small confection of a hemi-spheroidal form, resembling *split peas* in appearance. They are composed of Cane Sugar and Egg Albumen. The formula for them, and the method of their production, is as follows:

Powdered Cane Sugar	*Six Parts.*
Albumen	*Two Parts.*

The "white of egg" is beaten to a stiff froth, the sugar is gradually added and *beaten* in, and finally, the mixture being transferred into a "dropper," is dropped drop by drop upon oiled paper and there left to dry. The "discs" are also dried in an oven at low heat.

CHAPTER VI.

Tables of Weights and Measures.

181. TROY WEIGHT.

24 grains = 1 pennyweight.
480 " or 20 pwts. = 1 ounce.
5760 " " 12 ounces = 1 pound.

Or,

Pound. ℔.		Ounces. oz.		Pennyweights. pwt.		Grains. gr.
1	=	12	=	240	=	5760
		1	=	20	=	480
				1	=	24

Troy weight is the basis for *apothecaries'* weight; the division of Troy grains into scruples and into drachms instead of into *pennyweights*, being the only existing difference. Pennyweights are not employed in the weighing of medicinal substance.

182. APOTHECARIES' WEIGHT.

20 Troy grains = 1 scruple ℈
60 " " or 3 scruples = 1 drachm ʒ
480 " " " 8 drachms = 1 ounce ℥
5760 " " " 12 ounces = 1 pound ℔

—Or,

Pound. ℔		Ounces. ℥		Drachms. ʒ		Scruples. ℈		Grains. gr.
1	=	12	=	96	=	288	=	5760
		1	=	8	=	24	=	480
				1	=	3	=	60

183. AVOIRDUPOIS WEIGHT.

27.344 Troy grains = 1 drachm.
437.5 " " or 16 drachms = 1 ounce.
7000 " " " 16 ounces = 1 pound.

—Or,

Pound.		Ounces.		Drachms.		Grains.
℔		oz.		dr.		gr.
1	=	16	=	256	=	7000
		1	=	16	=	437.5
				1	=	27.344

184. THE DIFFERENTIAL GRAIN VALUATION OF THE DRACHM, OUNCE, AND POUND.

27.344	Troy grains	=	1	drachm	Avoirdupois.
60	"	=	1	"	Apothecaries'.
480	"	=	1	ounce	Troy.
480	"	=	1	"	Apothecaries'
437.5	"	=	1	"	Avoirdupois.
5760	"	=	1	pound	Troy.
5760	"	=	1	"	Apothecaries'.
7000	"	=	1	"	Avoirdupois.

185. One Troy pound equals 13 ounces 72.5 grains Avoirdupois.

186. One Avoirdupois pound equals 1 pound, 2 ounces, 280 grains Troy.

THE FRENCH DECIMAL WEIGHTS AND MEASURES.

187. The French *metric* system is based upon the idea of employing as the unit of all measures, whether of length, capacity, or weight, a uniform, unchangeable standard, adopted from nature, the multiples and subdivisions of which should follow in decimal progression. To obtain such a standard, the length of one-fourth part of the terrestrial meridian, extending from the equator to the pole, was ascertained. The ten-millionth part of this arc was chosen as the unit of measures of length, and was denominated *metre*. The cube of the tenth part of the metre was taken as the unit of measure of capacity, and denominated *litre*. The weight of distilled water, at its greatest density, which this cube is capable of containing, was called *kilogramme*, of which the thousandth part was adopted as the unit of weight, under the name of *gramme*. The multiples of these measures, proceeding in the decimal progression, are distinguished by employing the prefixes *deca*, *hecto*, *kilo* and *myria*, taken from the Greek numerals; and the subdivisions, following the same order, by *deci*, *centi*, *milli*, from the Latin numerals.—*U. S. Disp.*

The *metre*, or unity of length, at 32° =* 39.371 English inches at 62° F.
The *litre*, or unity of capacity, = 61.028 English cubic inches.
The *gramme* or unity of weight =† 15.434 Troy grains.—*U. S. Disp.*

* 39.370. † 15.432—1882.

188. THE VALUATION OF THE FRENCH OR METRIC GRAM WEIGHT AND ITS SUB-DIVISIONS AS EXPRESSED IN APOTHECARIES' WEIGHT.

1000th of a GRAM or	1 Milligram	—	0.001	=	1-64	grain.
100th “ “ “ “	1 Centigram	—	0.01	=	1-6	grain.
10th “ “ “ “	1 Decigram	—	0.1	=	1½	grains.
The unit of weight or	1 GRAM	—	1.	=	15.432	“
10 GRAMS or	1 Decagram	—	10.	=	154.32	“
100 “ “	1 Hectogram	—	100.	=	1543.2	“
1000 “ “	1 Kilogram	—	1000.	=	15432.	“

189. THE VALUATION OF THE FRENCH OR METRIC LITRE MEASURE AND ITS SUB-DIVISIONS AS EXPRESSED IN APOTHECARIES' MEASURE.

1000th of a LITRE or	1 Millilitre	—	0.001	=	.061028 Eng. cu. in. 16.2318 minims.
100th “ “ “	1 Centilitre	—	0.01	=	.610280 Eng. cu. in. 2.7053 fluidrachms.
10th “ “ “	1 Decilitre	—	0.1	=	6.102800 Eng. cu. in. 3.3816 fluidounces.
The unit of capacity,	1 LITRE	—	1.	=	61.028000 Eng. cu. in. 2.1135 pints.
10 LITRES or	1 Decalitre	—	10.	=	610.280000 Eng. cu. in. 2.6419 wine gallons.
100 “ “	1 Hectolitre	—	100.	=	6102.800000 Eng. cu. in. 26.419 wine gallons.
1000 “ “	1 Kilolitre	—	1000.	=	61028.000000 Eng. cu. in. 264.19 wine gallons.

190. RULES FOR CONVERTING APOTHECARIES' INTO METRIC WEIGHT OR METRIC INTO APOTHECARIES' WEIGHT.

To convert—

Troy grains into Centigrams, Multiply Centigrams “ Troy grains, *Divide*	by .65
Troy grains “ Milligrams, Multiply Milligrams “ Troy grains, *Divide*	by .065
Troy grains into Grams or Minims into Fluidgrams, Divide Grams into Troy grains or Fluidgrams into Minims, *Multiply*	by 15.
Drachms into Grams or Fluidrachms into Fluidgrams, *Multiply* Grams into Drachms or Fluidgrams into Fluidrachms, Divide	by 3.

192. APOTHECARIES' MEASURE.

60 minims = 1 fluidrachm.
8 fluidrachms = 1 fluidounce.
16 fluidounces = 1 wine pint.
8 wine pints = 1 “ gallon.

—Or,

Gallon.		Pints.		Fluidounces.		Fluidrachms.		Minims.
Cong.		O.		f℥		fʒ		
1	=	8	=	120	=	1024	=	61440
		1	=	16	=	128	=	7680
				1	=	8	=	480
						1	=	60

193. THE VALUATION OF APOTHECARIES' MEASURE AS EXPRESSED IN APOTHECARIES' WEIGHT.

At 160° Fahrenheit, one minim, or .00376 cubic inches of distilled water weighs .9494 Troy grains.

One fluidrachm, or .2256 cubic inches	of distilled	water	weighs		56.9640	"	"
One fluidounce, or 1.8047 cubic inches	"	"	"	"	455.7120	"	"
One pint, or 28.875 cubic inches	"	"	"	"	7291.3920	"	"
One gallon, or 231 cubic inches	"	"	"		59131.1360	"	"

194. IMPERIAL MEASURE.

60 minims = 1 fluidrachm.
8 fluidrachms = 1 fluidounce.
20 fluidounces = 1 pint.
8 pints = 1 gallon.

"The *Imperial* gallon is equal to 277.274 cubic inches of distilled water; or ten pounds avoirdupois; or twelve pounds, one ounce, sixteen pennyweights and sixteen grains, Troy. The *wine* or *apothecaries'* gallon is equal to 231 cubic inches of distilled water; or eight pounds, five ounces, six and one-fourth drachms, avoirdupois; or ten pounds, one ounce, nine pennyweights and twenty-two grains, Troy."—*King.*

195. THE VALUATION OF IMPERIAL MEASURE AS EXPRESSED IN APOTHECARIES' WEIGHT.

Gallon.		Pints.		Fluidounces.		Fluidrachms.		Minims.		Troy Grains.
1	=	8	=	160	=	1280	=	76800	=	7.0000
		1	=	20	=	160	=	9600	=	8.750
				1	=	8	=	480	=	437.5
						1	=	60	=	54.69
								1	=	.91

196. THE RELATIVE VALUE OF THE APOTHECARIES' AND THE IMPERIAL MEASURE.

One Gallon—U. S. Measure	=	*six* pints, *thirteen* ounces, *two* drachms, and *twenty-three* minims—Br.
One Pint—U. S. Measure	=	*sixteen* ounces, *five* drachms, and *eighteen* minims—Br.
One Fluidounce—U. S. Measure	=	*eight* drachms and *twenty* minims—Br.
One Fluidrachm—U. S. Measure	=	*one* fluidrachm and *two* and *five-tenths* minims—Br.
One Minim—U. S. Measure	=	*one* and *four one-hundredths* of a minim —Br.

One Gallon—Br. Measure = *one* gallon, *one* pint, *nine* ounces, *five* drachms and *eighteen* minims—U. S.

One Pint—Br. Measure = *one* pint, *three* ounces, *one* drachm and *thirty-eight* minims—U. S.

One Fluidounce—Br. Measure = *seven* drachms and *forty-one* minims—U. S.

One Fluidrachm—Br. Measure = *fifty-eight* minims—U. S.

One Minim—Br. Measure = *ninety-six thousandths* of one minim—U. S.

197. APPROXIMATE MEASURES.

A *drop* is usually thought to be equivalent to a minim; or to be one-sixtieth of a fluidrachm. But, because of the drop not always being of the same size, the density and temperature of the fluid, the diameter and the shape of the mouth of the vessel, all interfering therewith, this mode of estimating drug quantity of liquids is hazardous. A *teacup* is estimated to contain about four fluidounces, or a gill; a *wine-glass*, two fluidounces; a *table-spoon* (cochleare magnum), one-half fluidounce—a dessert-spoon (cochleare medium), two fluidrachms, and a *teaspoon* (cochleare parvum), one fluidrachm.

"That fluids vary in the number of drops required to make a fluidrachm, will be seen by the following table by Mr. E. Durand, of Philadelphia:"

	No. of drops in 20 minims.	No. of minims in 20 drops.
Acetic Acid (crystallizable	40	10
Acid Hydrocyanic (aq.—solution)	15	26.6
" Muriatic	18	22.2
" Nitric	28	14.2
" " Diluted (1 to 7)	17	23.5
" Sulphuric	30	13.3
" " Diluted (1 to 7)	17	23.5
Alcohol	46	8.6
" Diluted	40	10
Arsenite of Potassa (solution of)	19	21
Ether, Sulphuric	50	8
Oil of Wormseed, Peppermint, Anise, Olive, Cloves, etc	40	10
Tincture of Opium, Valerian, Assafœtida, Guaiac, Digitalis, Cantharides, etc	40	10
Tincture of Muriate of Iron	44	9.1
Vinegar, Distilled	19	21
" of Colchicum, of Opium, and of Squill	26	15.3
Water, Distilled	15	26.6
" of Ammonia	18	22.2
" " " (weak)	15	26.6
Wine of Antimony	24	16.6
" " Colchicum	25	16
" " Opium	26	15.3

—*King*.

Relation of Apothecaries' Weight and Measure to Metric Weight and Measure.								Relation of Metric to Apothecaries' Measure.		
Apothecaries'.		Metric.	Apothecaries' Measure.		Specific Gravity* of Water.	Lighter† than Water.	Heavier‡ than Water.			
Troy Grains.		Grams.	Minims.		C. C. Metres.	C. C. Metres	C. C. Metres.	C. C. Metres.		Fluidounces.
$\frac{1}{64}$	=	0.00101	1	=	0.06	.055	.08	1,000	=	33.81
$\frac{1}{60}$	=	0.00108	2	=	0.12	.10	.15	950	=	32.12
$\frac{1}{50}$	=	0.00130	3	=	0.18	.16	.24	900	=	30.43
$\frac{1}{48}$	=	0.00135	4	=	0.25	.22	.32	850	=	28.74
$\frac{1}{40}$	=	0.00162	5	=	0.31	.28	.40	800	=	27.05
$\frac{1}{36}$	=	0.00180	6	=	0.37	.32	.48	750	=	25.36
$\frac{1}{32}$	=	0.00202	7	=	0.43	.38	.55	700	=	23.67
$\frac{1}{30}$	=	0.00216	8	=	0.49	.45	.65	650	=	21.98
$\frac{1}{25}$	=	0.00259	9	=	0.55	.50	.73	600	=	20.29
$\frac{1}{24}$	=	0.00270	10	=	0.62	.55	.80	550	=	18.59
$\frac{1}{20}$	=	0.00324	11	=	0.68	.60	.91	500	=	16.90
$\frac{1}{18}$	=	0.00360	12	=	0.74	.65	.96	450	=	15.22
$\frac{1}{16}$	=	0.00405	13	=	0.80	.71	1.04	400	=	13.53
$\frac{1}{15}$	=	0.00432	14	=	0.86	.76	1.12	350	=	11.84
$\frac{1}{12}$	=	0.00540	15	=	0 92	.80	1.20	300	=	10.14
$\frac{1}{10}$	=	0.00648	16	=	0.99	.90	1.32	250	=	8.45
$\frac{1}{8}$	=	0.00810	17	=	1 05	.93	1.35	200	=	6.76
$\frac{1}{6}$	=	0.01080	18	=	1 11	1.00	1.45	150	=	5.07
$\frac{1}{5}$	=	0.01296	19	=	1.17	1 05	1.53	100	=	3.38
$\frac{1}{4}$	=	0.01620	20	=	1.23	1.12	1 60	30	=	1.01
$\frac{1}{3}$	=	0.02160	21	=	1.29	1.17	1.68	C. C. Metres.		Fl. Drs.
$\frac{1}{2}$	=	0.03240	22	=	1.36	1.22	1.75	25	=	6.76
$\frac{3}{4}$	=	0.04860	23	=	1.42	1.28	1.84	20	=	5.41
1	=	0.06480	24	=	1.48	1.34	1.92	15	=	4.06
1½	=	0.09720	25	=	1.54	1.40	2.00	10	=	2.71
2	=	0.12960	26	=	1.60	1.44	2.08	9	=	2.43
2½	=	0.16200	27	=	1.66	1.50	2.15	8	=	2.16
3	=	0.19440	28	=	1.73	1.57	2.25	7	=	1.89
4	=	0.25920	29	=	1.79	1.62	2.33	6	=	1.62
5	=	0.32399	30	=	1.85	1.70	2.50	5	=	1.35
6	=	0.38879	35	=	2.16	2.00	2.90	4	=	1.08
7	=	0.45359	40	=	2.46	2.25	3.30	C. C. Metres.		Minims.
8	=	0.51839	45	=	2.77	2.53	3.70	3	=	48.69
9	=	0.58319	50	=	3.08	2.80	4 15	2	=	32.46
10	=	0.64799	55	=	3.39	3.36	4.55	1	=	16.23
11	=	0.71297	60	=	3.70	3.40	5.00	0.95	=	15.42
12	=	0.77759	70	=	4.31	4.00	6 00	0.90	=	14.61
13	=	0.84239	80	=	4.93	4.50	6.65	0.85	=	13.80
14	=	0.90718	90	=	5.54	5.10	7.50	0.80	=	12.98
15	=	0.97198	100	=	6.16	5.60	8.30	0.75	=	12.17
16	=	1.037	110	=	6.78	6.15	9.10	0.70	=	11.36
17	=	1.102	120	=	7.39	6.75	10.00	0.65	=	10.55
18	=	1.166	Fl. Drs.		C. C.			0.60	=	9.74
19	=	1.231	3	=	11.09	10.10	15.00	0.55	=	8.93
20	=	1.296	4	=	14.79	13.50	20.00	0.50	=	8.12

(Continued.)

(CONCLUDED.)

21 =	1.361	5 =	18.48	16.90	25.00	0.45 =	7.30
22 =	1.426	6 =	22.18	20.25	30.00	0.40 =	6.49
23 =	1.458	7 =	25.88	23.60	35.00	0 35 =	5.68
24 =	1.555	8 =	29.57	27.00	40.00	0.30 =	4.87
25 =	1.620	9 =	33.27	30 40	45.00	0.25 =	4.06
26 =	1.685	10 =	36.97	33.75	50.00	0.20 =	3.25
27 =	1.749	11 =	40.66	37.15	55.00	0.19 =	3.08
28 =	1.814	12 =	44.36	40.50	60.00	0 18 =	2.92
29 =	1.869	13 =	48.06	43.85	65.00	0.17 =	2.76
30 =	1.944	14 =	51.75	47.25	70.00	0.16 =	2.60
40 =	2.592	15 =	55.45	50.65	75.00	0.15 =	2.43
50 =	3.240	16 =	59.10	54.00	80.00	0.14 =	2.27
Drs.	Grs.	Fl. Oun.	C.C.				
1 =	3.888	3 =	88.67	81.00	120.00	0.13 =	2.11
2 =	7.776	4 =	118.24	108.00	160.00	0.12 =	1.95
3 =	11.664	5 =	147.81	135.00	200.00	0.11 =	1.79
4 =	15.552	6 =	177.39	162.00	240.00	0.10 =	1.62
5 =	19.440	7 =	206.96	189 00	280.00	0.09 =	1.46
6 =	23.328	8 =	236.53	216.00	320.00	0.08 =	1.30
7 =	27.216	9 =	266.10	243.00	360.00	0.07 =	1.14
Ounces.	Gr'ms.	10 =	295.68	270.00	400.00	0.06 =	0.97
1 =	31.103	11 =	325.25	297.00	440.00	0.05 =	0.81
1½ =	46.655	12 =	354.82	324.00	480.00	0.04 =	0.65
2 =	62.207	13 =	384.40			0.03 =	0.49
3 =	93.310	14 =	413.97			0.02 =	0.32
4 =	124.414	15 =	443.54			0.01 =	0.16
5 =	155.517	16 =	473.11	432.00	640.00		
6 =	186.621	17 =	502.69				
7 =	217.724	18 =	532.26				
8 =	248.823	19 =	561.93				
9 =	279.931	20 =	591.50	540.00	800.00		
10 =	311.035	21 =	621.08				
11 =	342.138	22 =	650.65				
12 =	373.250	23 =	680.22				
13 =	404.345	24 =	709.80	720.00	960.00		
14 =	435.449	25 =	739.37				
15 =	466.552	26 =	768.94				
16 =	497.656	27 =	798.51				
17 =	528.759	28 =	828.09	756.00	1120.00		
18 =	559.863	29 =	857.66				
19 =	590.966	30 =	887.23				
20 =	622.070	31 =	916.80				
		32 =	946.38	864.00	1280.00		
		64 =	1892.75	1728.00	2560.00		
		128 =	3785.51	3456.00	5120.00		

* Same as water are waters, liquids, decoctions, infusions, most fluid extracts, and tinctures made with dilute alcohol.

† Lighter than water are tinctures, spirits, compound spirits of ether, sweet spirit of nitre, fixed and volatile oils. Æther Fortior, f ʒj=grams 2.80.

‡ Heavier than water are syrups, glycerin, a few fluid extracts, and chloroform. Of the latter, f ʒj=grams 5.50.

CHAPTER VII.

The Art of Homœopathic Pharmaceutics.

198. The remedial agents of the Homœopathic School of Medicine for internal administration are usually known and denominated as CRUDES, TRITURATIONS, TINCTURES, and DILUTIONS, and are designated one from the other by the following characters. For instance:—

The affixing of the character O thus:—ACONITE RAD, O signifies that it is the CRUDE substance *Aconite Root.*

—While,

The affixing of the Greek character *θ* thus, ACONITE RAD *θ* signifies that it is the TINCTURE of the *Aconite Root.*

199. The "Triturations" and "Dilutions," *both*, are the decimal and centesimal notations of drug substance; they are the progressive retrogressions of drug quantity; they progressively *increase* in inert quantities while they likewise as rapidly *decrease* in the possession of the original quantity of drug substance. The affixing of a numeral, for instance, thus:—

ARSENICUM ALB 2 signifies that it is the SECOND DECIMAL TRITURATION of *Arsenicum Alb.*

—While,

The affixing of the *decimal point* before the numeral, thus,—ARSENICUM ALB .2, signifies that it is the SECOND DECIMAL DILUTION of *Arsenicum Alb.*

The trituration of a crude substance naturally occurs prior to the preparation of a dilution; hence, the *decimal point* before the numeral—the characteristic difference existing here between the two preparations—is *dropped* in designating the triturates and is *only* affixed in case the preparation is a dilution.

200. The same rule is observed with the *centesimal* preparations, to wit:

In the case of the triturates, there is first made a *cipher* then a numeral thus:—Merc. Vivus 03, which signifies that the preparation is the Third Centesimal Trituration of Merc. Vivus.

—While,

The affixing of the *decimal point*, cipher, and numeral, thus:—Merc. Vivus .03, signifies that it is the Third Centesimal Dilution of Merc. Vivus.

201. The *decimal* point in both instances determines the preparation a *fluid* one; that it is a *dilution*; while the presence or absence of the *cipher* indicates at once if the preparation is a *decimal* or a *centesimal* one.

202. Through common usage, however, the Roman numeral X has become significant as a "mark" for the decimal preparations; the number of the triturate or dilution preceding it, thus:—Aconite Nap. 3x—signifying that it is the *third decimal* attenuation.

203. The centesimal preparations, both the triturations and the dilutions, are also now commonly marked thus:—Bryonia Alb. 3c—signifying, because of the Roman letter C, that it is the *third centesimal* attenuation.

THE NEW WAY.			THE OLD WAY.		
CRUDE SUBSTANCE.			**CRUDE SUBSTANCE.**		
	Aconite rad	o		Aconite rad	o or ø
	Bryonia alb	o			
	Belladonna	o			
TRITURATIONS.			TRITURATIONS.		
Decimal	Arsenicum alb	1	Decimal	Merc Vivus	1x or $\frac{1}{10}$
	" "	2		" "	2x " $\frac{2}{10}$
	" "	3		" "	3x " $\frac{3}{10}$
Centesimal	Merc Vivus	01	Centesimal	Arsenicum	1c or $\frac{1}{100}$?
	" "	02		"	2c " $\frac{2}{100}$
	" "	03		"	3c " $\frac{3}{100}$
TINCTURES.			**TINCTURES.**		
	Chamomilla	ø		Chamomilla	ø
DILUTIONS.			DILUTIONS.		
Decimal	Spongia tost	.1	Decimal	Nux vomica	1x or $\frac{1}{100}$
	" "	.2		" "	2x " $\frac{2}{100}$
	" "	.3		" "	3x " $\frac{3}{100}$
Centesimal	Nux vomica	.01	Centesimal	Spongia tost	1c or $\frac{1}{100}$
	" "	.02		" "	2c " $\frac{2}{100}$
	" "	.03		" "	3c " $\frac{3}{100}$

204. The word *Potency* refers to strength alone; while the words *Attenuation* and *Dilution* refer to both strength and form.

205. When properly used, the word *Attenuation* refers to the reduction of a drug in a dry or solid state *only*; to the process termed *Trituration.*

206. The word *Dilution* refers to the divisibility of a medicinal substance in *fluid* form, to the reduction of the drug quantity of either an *Aqueous Solution* or a *Tincture.*

207. The word Tincture, however, *invariably* implies that alcohol is present in a greater or less quantity.

208. The *decimal* preparations, or those suggested by Constantine Hering, M. D., are composed of the medicinal properties of *one* part of the CRUDE DRUG or TINCTURE,* and *nine* parts of MILK SUGAR or ALCOHOL forming the *first* decimal preparation, one part of this to nine more of the vehicle forming the *second,* and one part of this to nine more of the vehicle forming the *third,* etc.

209. In preparing the *centesimal* preparations, or those suggested by Hahnemann, *the quantity of the drug is the same* but the quantity of the vehicle is *increased,* namely: *one* part of the medicinal properties of the CRUDE DRUG or TINCTURE † and *ninety-nine* parts of MILK SUGAR or ALCOHOL constitutes the *first* centesimal preparation; one part of this and ninety-nine parts of the vehicle constitutes the *second,* and one part of this and ninety-nine more parts of the vehicle constitutes the *third,* etc.

210. The drug valuation of the *decimal* preparations from the *first* to the *thirtieth* is as follows: meaning that the *first* decimal potency, in any quantity, contains the *medicinal properties* of the drug in quantity *equal to one-tenth part* of the whole; the *second* decimal potency a quantity *equal to one hundredth part* of the whole; and the *third* decimal potency a quantity *equal to one-thousandth part* of the whole, etc. That is to say—one grain of the first, contains one-tenth of the grain of the drug; one grain of the second one-hundredth of a grain of the drug; one grain of the third one-thousandth of a grain of the drug, etc.

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* See Paragraphs 210, 215.

† See Paragraphs 213, 215.

Dec.			Part.
1st	.1	One	Tenth.
2d	.01	“	Hundredth.
3d	.001	“	Thousandth.
4th	.000,1	“	Ten Thousandth.
5th	.000,01	“	Hundred Thousandth.
6th	.000,001	“	Millionth.
7th	.000.000,1	“	Ten Millionth.
8th	.000,000,01	“	Hundred Millionth.
9th	.000,000,001	“	Billionth.
10th	.000,000,000.1	“	Ten Billionth.
11th	.000,000,000.01	“	Hundred Billionth.
12th	.000,000,000.001	“	Trillionth.
13th	.000.000,000,000,1	“	Ten Trillionth.
14th	.000,000,000,000,01	“	Hundred Trillionth.
15th	.000.000,000,000,001	“	Quadrillionth.
16th	.000,000,000,000,000,1	“	Ten Quadrillionth.
17th	.000,000,000,000,000,01	“	Hundred Quadrillionth.
18th	.000,000,000,000,000,001	“	Quintillionth.
19th	.000,000,000,000,000,000.1	“	Ten Quintillionth.
20th	.000,000,000,000,000,000,01	“	Hundred Quintillionth.
21st	.000.000,000,000,000, 000,001	“	Sextillionth.
22d	.000,000,000.000.000,000.000.1	“	Ten Sextillionth.
23d	.000,000,000,000.000,000,000.01	“	Hundred Sextillionth.
24th	.000,000,000,000.000,000,000.001	“	Septillionth.
25th	.000,000,000,000,000,000,000.000,1	“	Ten Septillionth.
26th	.000,000,000,000,000,000,000,000,01	“	Hundred Septillionth.
27th	.000,000,000,000.000,000,000.000,001	“	Octillionth.
28th	.000,000,000,000.000,000,000,000.000,1	“	Ten Octillionth.
29th	.000.000.000.000,000.000.000.000,000.01	“	Hundred Octillionth.
30th	.000,000,000.000,000,000,000.000,000,001	“	Nonillionth.

These, the above preparations, are termed the *low potencies*, and they severally contain the medicinal properties of the primitive drug, as above indicated, in quantities varying from one-tenth part to *one-nonillionth* part.

211. Formerly the low potencies were all those of the *centesimal* scale from the crude substance to the sixth; those above this to the thirtieth were known as the *middle potencies;* those from the thirtieth to the two hundredth the *higher potencies;* and those from the two hundredth to *any* number above the two hundredth, the *highest potencies.*

212. The high potencies of to-day are all those above the *thirtieth decimal* preparation. Generally, however, such potencies are in fluid form, although some are still prepared in powder form.

213. *The drug valuation of the *centesimal* potencies, giving

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*The Germans frequently adopt the method of designating the attenuation by the fraction which each one contains of the primitive drop; they say, for instance: *millionth, billionth, trillionth, etc.,* as far as *decillionth*, meaning by the millionth attenuation that it contains the one-millionth part of the primitive the fractional part of the primitive drug in each, from the *first* to the *sixteenth* is as follows:

Each grain of the—			
1st	contains the	One Hundredth	part of one grain of crude drug.
2d	" "	One Ten Thousandth	
3d	" "	One Millionth	
4th	" "	One Hundred Millionth	
5th	" "	One Ten Billionth	
6th	" "	One Trillionth	
7th	" "	One Hundred Trillionth	
8th	" "	One Ten Quadrillionth	
9th	" "	One Quintillionth	
10th	" "	One Hundred Quintillionth	
11th	" "	One Ten Sextillionth	
12th	" "	One Septillionth	
13th	" "	One Hundred Septillionth	
14th	" "	One Ten Octillionth	
15th	" "	One Nonillionth	

214. In drug valuation, the first centesimal and the second decimal potencies are the same. This is also true of the third centesimal and the sixth decimal; of the sixth centesimal and the twelfth decimal; of the ninth centesimal and the eighteenth decimal; of the twelfth centesimal and the twenty-fourth decimal; of the thirteenth centesimal and the twenty-sixth decimal; of the fourteenth centesimal and the twenty-eighth decimal; and of the fifteenth centesimal and the thirtieth decimal.

215. One part of the *tincture* to either *nine* parts or to *ninety-nine* parts of alcohol may represent the first decimal or the first contesimal *dilution* of the tincture, *but the said dilutions do not necessarily contain the medicinal properties of* either one-tenth or one-hundredth part of the drug. *This* is accomplished by using as many parts of the tincture as are required to obtain the medicinal properties of *one part* of the drug, *to which alcohol is added in sufficient quantity to make exactly ten parts or one hundred parts* as a whole. Such preparations actually *contain* one-tenth or one-hundredth part of the drug and really *are* the first decimal or first centesimal dilution of both the tincture and the drug.

drop. But in speaking of the billionth attenuation, the Germans *do not mean the same thing as we do in America;* for by a billion the Germans understand *a million multiplied by itself*, and so by a trillion they understand *a billion multiplied by itself*, and so forth; hence, the billionth attenuation, in our language would contain three times three ciphers (1,000,000,000), whereas in the German it is meant to contain *four times* three ciphers (1,000,000,000,000).—*Hempel in Jahr And Gruner Pharmacopœia.*

216. A *tincture* composed of four Troy ounces of the crude drug and sixteen Troyounces of alcohol gives a standard strength of *one-fourth* grain to the minim; hence, *four minims* of this tincture to six more minims of alcohol, sp. gr. '835–if this be the per cent of alcohol used for the tincture—will make the *first decimal* dilution; one *minim* of which contains the medicinal properties of *one-tenth* grain of the crude drug. Again, *one minim* of this, the first decimal dilution, to nine minims more of alcohol—sp. gr. '835—will make the second decimal dilution; one minim of which contains the medicinal properties of one-hundredth of a grain of the crude drug, etc.

217. The decimal or centesimal potency of *any* tincture may be readily attained if only properly commenced. In America, apothecaries' weight and measure *only* are used to designate drug quantity. In the preparation of medicine the apothecaries' ounce is the Troy ounce; by weight, the fluidounce is the Troy ounce. Hence the strength of any tincture, if the menstruum used be the proper solvent is readily established by a knowledge of the quantities of the drug and menstruum used in its preparation. The U. S. DISPENSATORY has adopted one part to eight; that is to say,—one part of the drug to eight of the menstruum; or, two Troy ounces of the drug to sixteen fluidounces of the menstruum; thus making the standard strength of such tinctures—the tinctures of the narcotics are stronger—*one-eighth* grain to the minim; that is to say, the *medicinal properties* of one-eighth grain to the minim. In such a case as this, one part of the tincture to nine parts of alcohol would give the decimal dilution of the tincture *but not the decimal strength of the drug.* Therefore in order to decimally notate the strength of the drug, it would be necessary to use *eight parts of the tincture* to two of the alcohol, thus making ten parts, of which each part would represent one-tenth part of the whole; *after which, one part to nine* would successively make all subsequent decimal dilutions.

218. As stated above, the strength of a tincture depends on the quality of the menstruum, the power of the drug to resist solubility, and the quantity of the drug used. The soluble properties of two ounces of drug—not drug substance—impregnating *sixteen ounces* of menstruum are hypothetically two parts, or *two-sixteenths* of the sixteen parts, and, as the representative of drug substance, constitute one-eighth part of the whole. In

brief, the *ounce* quantity of drug substance in the U. S. wine pint is significant of being the medicinal strength of one-sixteenth of a grain of the drug to the minim; two ounces—two-sixteenths—indicates a drug strength of one-eighth grain to the minim; four ounces—four-sixteenths—indicates a drug strength of one-fourth grain to the minim; six ounces—six-sixteenths—indicates a drug strength of three-eighths grain to the minim; eight ounces—eight-sixteenths—indicates a drug strength of one-half grain to the minim, etc.

219. The *first decimal* dilution may also be made direct from the drug, using *one* part of the drug to *ten* parts of alcohol.

220. Tinctures by *percolation* are made in the following manner: —The kind of filtration known as percolation or displacement, "consists in subjecting a substance or substances, in powder, contained in a vessel called a *percolator*, to the solvent action of successive portions of a menstruum, in such a manner that the liquid, as it traverses the powder in its descent to the recipient, shall become charged with the soluble portion of it, and pass from the percolator free from insoluble matter." "When the process is successfully conducted, the first portion of the filtered liquid, or *percolate*, will be nearly saturated with the soluble constituents of the substance treated; and, if the quantity of menstruum be sufficient for its exhaustion, the last portion will be nearly destitute of color, odor, and taste."—*U. S. Disp.*

221. The first part of the process consists in reducing the substance to a powder of uniform fineness; usually to that degree of fineness that it will pass through a sieve having forty meshes to the linear inch. The powder is then treated with a sufficient quantity of the menstruum to thoroughly moisten it, and carefully placed upon the diaphragm it is firmly and evenly compressed, and the surface being leveled, it is covered over with a circular piece of blotting paper or moistened muslin that the liquid when poured upon it shall not disarrange the powder but that it shall be absorbed equably.

222. "The percolator being now properly supported, with its neck in a bottle previously marked for the quantity or quantities of liquid to be percolated, the menstruum is to be poured on the muslin until the space above is nearly filled; and a layer of it must be constantly maintained above the powder, so as to prevent the

access of air to its interstices, until all has been added, or until the requisite quantity of percolate has been obtained."—*U. S. Disp.*

223. "If the fineness of the powder and its arrangement in the percolator have been properly attended to, the percolate will pass out, by drops, with greater or less rapidity, according to the size of the percolator; but, if, by reason of accidental imperfection in the powder, or in the packing, the liquid pass more rapidly than this, the neck of the percolator should be obstructed by means of a cork until the requisite slowness has been attained."—*U. S. Disp.*

224. "It has generally been considered advisable, before introducing the material into the instrument, to mix it with a portion of the solvent, and allow it to stand for some time in another vessel. It thus becomes more penetrable and more easily acted on by the menstruum, admits of a more uniform packing, and, if liable to swell with water, undergoes this expansion where it can not have the effect of checking percolation. Opinion, however, has considerably changed on this point. It is obvious that, when it is desirable to have the first portion of the percolate as concentrated as possible, it is necessary that the powder should be no further moistened than may be essential for proper packing in the instrument. When previously mixed with the powder, the portions of the liquid which first pass will have only the strength acquired by the maceration; whereas, when added to the powder but slightly moistened in the percolator, each particle of the menstruum passes successively, along the whole line of its descent, from particle to particle of the powder in all its strength, taking something from each as it descends until completely saturated; and it is also obvious that the higher the column,—that is the greater the depth of the packed powder—the greater will be the chance of complete saturation. Besides, since the introduction of conical percolators into use, the disadvantages of compression from swelling have been so far obviated that the previous maceration is less needful on this account. Prof. Graham prefers that no more of the menstruum should be preliminarily employed than may be sufficient to dampen the powder, so as to enable it to be packed properly, and facilitate the passage of the liquid through the powder."—*U. S. Disp.*

225. As a representative of drug power, a tincture by *maccra-*

tion is equally as good, if indeed it is not actually superior, as one commonly made by percolation. In this instance *skilled* manipulation is wholly unnecessary. The drug is simply reduced to a powder, fine enough to pass the meshes of a No. 40 sieve, and *fine* enough in other instances to pass a No. 60 sieve, when it is placed in a suitable glass vessel and is then covered with the proper menstruum and afterwards *frequently* shaken.

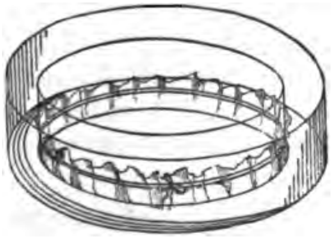
226. Another process of maceration, termed *circulatory displacement*, is as follows: The drug is coarsely powdered, placed in a convenient size canton flannel bag and suspended in and below the surface of the menstruum. For the latter method it is claimed, first, that it requires no further attention; second, that the process is quicker than the former, the spirit acting on the solid sinks to the bottom to be replaced by a fresh portion of the menstruum, thus establishing a descending and an ascending current which ultimately becomes saturated and is thus rendered incapable to further act as a solvent.

227. In preparing tinctures by either process the most convenient vessel to be used as the receiver, is a Mason fruit jar. Its capacity should be, at least, thirty-two fluidounces.

228. The dregs or insoluble part should be removed when maceration is completed, and, being submitted to the action of the press the fluid portion should be returned to the jar after which the tincture should be either filtered or decanted.

229. The tincture jar should be properly labeled, bearing the name of the drug, the date of the month when the drug and solvent were put together, the number of days it should steep, and the expiration of time when the tincture is ready for use. For instance, the label should read as follows: Tr. Aconite Rad. Jan. 1st, 1882, Macerate 14 days—until Jan. 15th, 1882.

230. **Dialysis**, a process based upon the different diffusibility of liquids, is performed in the following way: The dialyser is composed of two circular vessels; one, the outer vessel, is usually made of glass twelve inches in diameter and six inches in depth, the other or inner vessel of gutta percha ten inches in diameter and two inches in depth, over which, it



being bottomless, there is stretched a circular piece of parchment paper which is made fast either by a string or by a second gutta percha rim narrower than the first after the manner of fastening a drum-head. The inner vessel, or the one so largely constituted of parchment, receives the substance to be submitted to dialyzation, and is floated in the outer vessel of glass into which has been poured a quantity of distilled water five or ten times greater than is contained in the inner vessel.

231. That the process may be successful, care should be taken that no rent or aperture occurs in the parchment, and, that the quantity of the fluid in the inner vessel is not great, but that its depth is shallow.

232. In this process, which is one of endosmosis, the crystallizable substances termed *crystalloids* pass through the septum leaving the gelatinous substance termed *colloids* together with other inert matter behind, and, impregnating the distilled water now termed the *diffusate*, are here alone held in solution subject to either forced or spontaneous condensation and subsequent crystallization.

233. It should be remembered that a parchment-paper septum is *only* applicable in the dialysis of aqueous solutions.

234. **Local Applicants,** in their effect, are either counter-irritants, or else anodynes; they may or may not be of an oleaginous nature.

235. **Liniments** are usually composed of such fluid substances as tend toward the reduction of inflammatory conditions; they are commonly composed of oleaginous matter in combination with an alkaline base,—usually ammonia—which, partially saponifying, is held in suspension by water.

236. Liniments that are purely oleaginous are simply solutions of one or more of the gum resins in some one of the bland oils, a solution of animal substances in the oil of turpentine, or the simple admixture of either animal or vegetable oils.

237. **Lotions,** are simply washes or lavements, chiefly constituted of water, in which some medicinal properties are held and which are protected from decomposition by the presence of an antiseptic; usually glycerin.

238. **Glyceroles** are a combination of either alcoholic or aque-

ous extracts, in proportions varying from one part of the former to three, four, or six parts of the latter, while the *glycerates* are solutions of the alkaloidal salts in glycerin in proportions varying from three to fifteen grains of the former to five or six drachms Troy of the latter.

239. **Oleates** are substitutes for the oleaginous and glycerinic solutions of the alkaloids, and are simply the alkaloidal salts made soluble by the presence of oleic acid.

240. **Unguenta–Unguents***–(*Cerates?*–)are "fatty substances of a consistence like that of butter, and such that they may be readily applied to the skin by inunction. When ointments are prepared by merely mixing medicinal substances with simple ointment or *lard*, care should be taken, if the added substance be a powder, that it be brought to the finest possible state of division, before being incorporated with the unctuous matter. If soluble in water or alcohol, it may often be advantageously rubbed with a little of one of these liquids. *Gritty* matter should not be allowed to enter these preparations. When an extract is added, if not uniformly soft, it should be made so by trituration with a little water or alcohol according to its nature. Many ointments become rancid if long kept, and should, therefore, be prepared in small quantities at a time, or only when wanted for use. The tendency to rancidity may be in a considerable degree counteracted by imbuing the unctuous vehicle with benzoin, or with popular buds, as recommended by M. Deschamps (see *Am. Jour. of Pharm.* xv, 260); but care should be taken that there be no therapeutical objection to the admixture." —*U. S. Disp.*

241. **Emplastra—Plasters** are solid compounds, adhesive at a temperature of 98° F., compounded largely of olive oil and litharge, or of a mixture of resin, olive oil and wax.

242. **Cataplasmata—Cataplasms—Poultices,** "are preparations applied to an external part for the purpose of producing

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* The word *cerate*, as generally used by the homœopathist, is a misnomer. The quantities of wax and lard employed by him to form these unctuous compounds termed cerates, are the same as those employed by the druggists in preparing unguents, or ointments; more than this, they are applied by inunction. Cerates, properly speaking, contain resin; which, together with spermaceti and wax, render them much firmer than ointments.

relaxation, keeping up moisture, and allaying pain and inflammation. They are usually composed of substances capable of absorbing considerable fluid, and are applied either cold or warm, in a moist state. They should not be made so thin as to flow over the parts adjacent to their application, nor so thick as to become dry too rapidly; neither should they be composed of substances which stick too tenaciously to the skin and are not readily removed by water, nor of hard bodies. They should always be removed without being permitted to dry. Owing to the affections for which they are applied, and their influence upon these, they have received the several names of emollient, discutient, refrigerant, stimulating, etc. When applied to ulcers, tender and irritable parts, etc., it is customary to cover their surfaces with a little olive oil, in order to prevent their adhering to such parts. Poultices are commonly prepared by nurses, but medical men and druggists should be acquainted with their method of preparation."—*King.*

243. "*Spongio-piline* is sometimes applied to parts to absorb excessive moisture, or to prevent evaporation. It is a thick cloth composed principally of sponge, one side of which is applied to the skin in a wet or dry state, according to the action required; the other side being coated with some water-proof varnish."—*King.*

CHAPTER VIII.

The Art of Prescription Writing.

244. The art of prescription writing consists in not only properly naming the several ingredients to be used in writing the same legibly, but, also, in designating the quantities in such language or by such characters as shall prevent the possibility of error in compounding the same. The directions to the pharmacist should not only be made plainly comprehensible, but, so also, should the directions to the patient be likewise made plainly comprehensible. In both instances the directions should be concise, and explicitly given; they should be intelligently and briefly written as words of instruction.

245. The pharmacopœial name of each ingredient should be invariably used, and, it should be written in Latin, while the quantity of the drug should be expressed by an appropriate symbol. The directions, to both the pharmacist and the patient, should be written in English; or, in another language when better understood.

246. Each ingredient, together with the quantity expressed, should occupy a line; that is to say, the pharmacopœial name of the drug should be given first, then, following this, upon the same line, the quantity of the drug should be stated.

247. The practice of using abbreviations in prescription writing is, to say the least, a pernicious one; because, when carelessly employed as they frequently are, they are liable to create error. One should invariably use the full pharmacopœial name of a drug and never under any circumstances its abbreviation.

248. Gerrish says:—"Very few verbs are used in prescriptions. These are mostly imperatives addressed to the apothecary. Some are very common, occurring in the majority of prescriptions; as *Recipe* (take), *Misce* (mix), *Signa* (mark or label), *Fiat* (let it be made), or *Fiant* (let [them] be made.) Others

are less common, but still often used, as *Adde* (add), *Bulliat* (let it boil), *Cola* (strain), *Divide* (divide), *Macera* (macerate), *Repetatur* (it may be repeated), *Solve* (dissolve), *Sufficiat* (it suffices), and *Tere* (rub)."

249. The prepositions, conjunctions, and adverbs commonly used are *Cum* (with), *In* (in or into), *Ad* (to or up to), *Et* (and), and *Ana* (of each). Most words employed in prescription writing are either nouns or adjectives.

250. The symbol ℞ which stands for the Latin word *Recipe* and means "take," and which in its origin gave expression to solicitation of Divine approval, and is now sometimes written as the astronomical sign of Jupiter should be written *first;* then below upon the following line and a little to the right of the symbol should be named the most important ingredient, or *base*, together with its quantity; and, when the prescription is a compound, that is containing one or more ingredients than the excipient or vehicle, the next most important ingredient should be named upon the following line together with its quantity, etc.; the excipient and its quantity being named last. At the left, and below, should be written the Latin word *Misce* (mix). Following this, there should be given such directions as relate to *how* the several ingredients are to be mixed. Below this again, is to be written the Latin word *Signa* (mark or label), and, on the line with it, the directions to the patient.

251. A prescription thus written should bear the name and address of the person for whom prescribed, the date of month and year when written, and the name of the prescriber, to wit:—

CHICAGO, July 23, 1882.

℞

Oleum Terebinthinæ		f ʒii
Sacchrum Officinarum		
Pulvis Acaciæ	aa	Q. S.
Aquæ Menthæ Viridis		f ℥vi

Misce:—Rub the sugar and gum arabic together, add the turpentine and then slowly add the mint water.

Signa:—Dose, one teaspoonful; to be given every three (3) hours.

A. B. C———, M. D.
1000 Avenue B.

For C. D. E———,
100 Ave. C.

℞
(1) Globuli Aconitum napellus .3 ʒii
Misce:—
Signa:—No. 1. Dose, six globules; alternate with No. 2 every two (2) hours.
(2) Globuli Bryonia alba .3 ʒii
Misce:—
Signa:—No. 2. Dose, six globules; alternate with No. 1 every two (2) hours.

℞
(1) Sulphur 3 ʒii
Misce:—Divide sample powder grs. iii
Signa:—No. 1. Dose, like sample; take each morning before breakfast.
(2) Nux Vomica 2 ʒii
Misce:—Divide sample powder grs. ii
Signa:—No. 2. Dose like sample; take each night before retiring.

℞
Belladonna .6 Q. S.
Misce:—Saturate Milk Sugar grs. v
Signa:—Dissolve in two-thirds glassful of water, and give one teaspoonful every hour.

℞
Unguentum Phytolaccæ ℥i
Misce:—
Signa:—Apply as directed; two or three times daily.

℞
Emplastrum Belladonna ⅙ (one part of drug six parts of Excipient). 4x6
Misce:—Ft. S. A. (Secunda artem)

℞
Suppositoria Belladonna ½ No. x (½ gr. Ext. to each suppository).
Misce:—Ft. S. A.

CHAPTER IX.

The Homœopathic Vial and Cork.

252. **Phiala—Phial or Vial.**—Vials are made from the silicates of the alkalies. Those commonly in use are made of the silicate of potash and are known as *flint-ware.* The composition of *flint-glass* is alleged to be as follows:

White Sand	Fifty-one Parts.
Pearlash	Sixteen Parts.
Litharge	Twenty-eight Parts.
Nitre	Four and three-fourths Parts.
White Arsenic	One-eighth Part.
Peroxide Manganese	One-eighth Part.

These several ingredients, together with a small portion of broken flint-glass—termed a "cullet,"—are fused together at a high temperature in a large covered crucible of refractory clay. When the molten mass has assumed a condition suitable for working, that is, when sufficiently cool, a proper quantity is collected at the end of an iron tube, fitted with a wooden mouth-piece, and thrust into an iron flask, or mould, where the silicate is inflated with air by the manipulator who blows through the said tube and thus forms a hollow vessel the outer circumference of which closely fits into the interstices of the mould.

253. To the trade, the prescription vial is known as the "Plain Round-Shouldered Vial," the "Plain Oval," the "Union Oval" and the "French Square." The capacity of the first named vial is from one-half ounce to thirty-two ounces; of the second and third named, respectively, from one-half ounce to sixteen ounces; and of the last named, from one-half to thirty-two ounces. Besides these there are two forms of "Wide-Mouth" vials known

as the "Round-Shouldered" and "Square;" the former holds from one-half ounce to thirty-two ounces, and the latter from one-half ounce to sixteen ounces.

254. The "Homœopathic" vial—whose capacity so greatly varies—is figured here below. The American Institute of ~~Homœopathy~~ Pharmacy—Paragraph 172—"*Resolved,*

> That in designating the sizes of vials, the *diameter* in millimeters shall *precede* the length in millimeters, and be read as one number."

As for example the larger vial in the cut, whose capacity is about one and one-half drachms, is *sixteen* millimeters in diameter; in length, it measures *forty-five* millimeters; hence, its number is *sixteen hundred and forty-five*—No. 1645. The smaller vial, to the left, whose capacity is about one-fourth drachm, measures *eight* millimeters in diameter and *twenty-six* millimeters in length; therefore, its number should be *eight hundred and twenty-six*—No. 826. The benefit to be derived here, from this system of measurement, is not only in fitting case vials, where certainly it is very convenient, but, it also insures some degree of surety in securing vials of uniform size for ordinary dispensing purposes.

255. So far as any beneficial effect is concerned said to be derived from the use of *tinted* ware, either blue or amber, it is only necessary to remark that the idea is one which is simply fallacious. For, while the facts may have demonstrated as they certainly have, the superiority of the latter color over the former in preventing chemical changes such as are alleged to be due to the effects of light, facts have also demonstrated, beyond the possibility of a doubt, that a *colorless flint-glass vial coated over with black paper or asphaltum varnish* is far superior to either.

256. The only objection to the use of such a vial is, that the quantity of its contents can not be readily ascertained. However this feature, which is, indeed, an objectionable one, is provided for in the following manner: On the external surface of the

bottle extending from the shoulder to the bottom, there is to be pasted a narrow strip of card-board about one-eighth of an inch in width; over this, as well as over the surrounding glass, the asphaltum varnish is flowed; subsequently, after the varnish is dry, the edge of the card is followed around with a sharp-pointed knife, the card being then removed, a clear transparent track is left through which the contents may now be seen.

257. As already stated, *all medicine should be kept in absolute darkness;* in colorless flint-glass vials, which should be enclosed separately,one from the other, either in wooden or in paper-boxes, or,else, in the vials which are to be coated over as directed above.

258. **Quercus Suber—Cork Oak** is indigenous to the Mediterranean countries. It grows from fifty to sixty feet high and is from nine to sixteen feet in circumference. Its evergreen leaf —an oblong ovate—is sharply serrated. It flowers in April or May, and the fruit ripens sometime between August and February. The tree is found on slaty lands in Spain, in the south of France, in the north of Italy and in Algeria; in high latitudes, at an elevation of sixteen hundred to thirty-six hundred feet above the level of the sea.

259. Cork-wood is simply the exterior bark of the *Quercus suber*. By some growers the bark—cork-wood—is gathered at a time when the sap is ascending, when the bark is easily removed; by others, when the sap is descending, or at a time when there is the least danger of disturbing the liber, or inner bark; and also, when there is the least liability of incurring danger from frost. In gathering the "wood," the epidermis, or outer surface of the bark, is first scaled; then, commencing near the ground, a number of incisions are made, equi-distant apart, encircling the tree; after which, extending from one circular incision to another, several longitudinal cuts are made, and the bark is removed in sections. The removal is accomplished by wedge-shaped ax-helves used as levers.

260. The cork-wood is exported in bales, averaging one hundred and sixty pounds each, and when assorted is commercially denominated as "vial-wood," "wine-wood," and "ale-wood." The best quality of vial-wood comes from Spain and Portugal, and is from one-fourth to three inches thick. As a matter of

fact, both the thickness and texture of cork-wood depend upon the *quality* of the soil rather than upon the *age* of its growth. Cork-wood taken from the north side of the tree, like that from the trunk, low down near the roots, is oftentimes both brittle and thin, and is, therefore, of an inferior quality.

261. The *Quercus suber* "begins to yield cork when fifteen to sixteen years old, and every six or eight years furnishes a fresh supply, even for a century and a half, before it perishes; that interval of time being required for the renewal of the suberose layers by the living portions of the bark beneath. There are four constituent layers of the bark: the epidermis, within this the cork, next the cellular envelope, and lastly the liber which lies upon the wood. Each of these increases year by year; but the cork thus naturally produced is not valued. The commercial product is obtained by an artificial process. The external layers are removed, and the liber exposed. In the interior of this, at a variable distance from the surface, a layer of the proper cork is now formed, apparently by the change in the substance of the liber, the outer portions of which perish, while annually a new layer is added to the cork already existing, until it acquires a thickness which will justify its removal."—*U. S. Disp.*

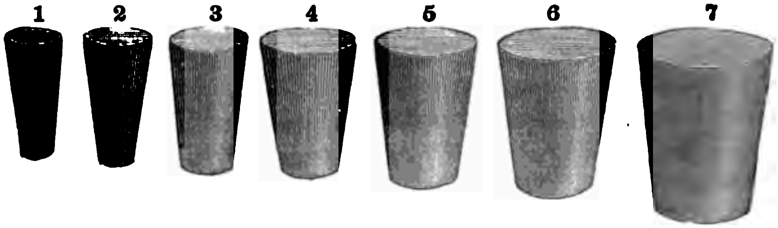
262. "Cork consists mainly of a peculiar proximate principle analogous to *lignin*, but differing from it in this respect, that, when treated with nitric acid, it yields a peculiar acid which has been denominated the *suberic acid*."—*U. S. Disp.*

263. "According to M. Chevreul—who has analyzed cork—it contains, besides the principle mentioned, a little volatile oil and acetic acid, which it yields by distillation; a yellow coloring substance, an astringent principle, an animalized substance, gallic acid, another acid, gallate of iron and lime, all of which it yields to water; a wax-like crystallizable matter, a soft resin, and two other undetermined bodies, which were extracted by alcohol after having been exhausted by water; altogether constituting about thirty per cent, while the characteristic ingredient mentioned, which may be called *suberin*, amounts to seventy per cent."—*U. S. Disp.*

264. In the manufacture of corks, the wood is first assorted; it is then moistened by keeping it for a few hours in contact with *wet* steam, when it is cut up into narrow strips, the width of

which depends upon the diameter of the cork to be cut. *Corks are invariably cut across the grain;* that is, the length of the cork usually is the thickness of the bark.

265. The *diameter* of a cork is its measurement across the largest end. Corks measure from five-sixteenths to fifteen-sixteenths of an inch in diameter; and, increasing in size by sixteenths, they are commercially known by numbers, numerically from 00 to 9. Corks specially known as "Homœopathic Corks" are made from the best Spain or Portugal woods. Homœopathic corks number from 1 to 7.



266. The straight cork is cut first, by a *tubular* knife making twenty-six hundred revolutions per minute. The knife is made to revolve in a cross-head, moving upon lateral guides, and is fed up and on to the cork-wood, piercing it in rapid succession. The corks are then removed to the tapering-machine, where they are clutched separately, by suitable mechanism, at the two ends; and then, being carried up and made to slowly revolve on the edge of a rapidly revolving *circular* knife—set horizontally—they are made tapering. This circular knife is a twenty-four inch disc, having a convexed edge; it makes about nine hundred revolutions per minute.

267. On account of the large amount of gallic acid contained in cork-wood, the knives are frequently *whet* to prevent gumming.

268. The best quality of corks are free from knots and fissures, are soft, close grained and elastic, and are readily compressed without fracture.

CHAPTER X.

General Formulary.

269. **Extract of Beef, Beef Essence or Beef Tea.**—Take *one pound* of newly killed lean beef, mince fine and place in a glass fruit jar and cover with *eight ounces* of water acidulated with *eight* or *ten drops* of pure hydrochloric acid. Allow the mixture to stand for an hour or two; screw down the cover and place the vessel within a second one (suitable for the purpose), partly filled with cold water, and then place over a slow fire bringing the water within the last named vessel to the boiling point. The contents of the fruit jar should now be removed. The residue should be compressed and strained. The solid portion, which is left, should be washed with an *ounce* or *two* of water, and subsequently, after being strained, this second fluid portion should be added to the first. This flesh extract is of a reddish color, and, it contains *all* of the nutritive properties of the beef.

270. **Infant and Invalid Food.**—*One ounce* of wheat bran is to be made wet with *three ounces* of water, holding in solution *ten grains* of bicarbonate of potash. Add *eight ounces* of cow's milk, and place over a gentle fire and stir until the mixture boils. Pass the mixture through a sieve, in order to separate the bran, when the food is ready for use. The food is slightly laxative. When there is a tendency to looseness of the bowels, prepared chalk, *fifteen* or *twenty grains*, may be substituted for the potash.

271. **Oat or Cornmeal Gruel.**—Take *two tablespoonfuls* of oatmeal, or cornmeal, with *three* of cold water, and mix thor-

oughly. Then add *one pint* of strong beef tea (or of milk); boil for five minutes, stirring well to prevent the meal from burning; and strain through a hair sieve. If the meal gruel is wanted plain, that is without either beef-tea or milk, mix as in the first instance and add *one pint* of water and proceed as directed above. Salt according to taste.

272. **The Bran Loaf.**—The formula used by Mr. Camplin in *Diabetes*, is as follows: "Take a sufficient quantity, *two* or *three quarts* of wheat bran, boil it in two successive waters for ten minutes, each time straining it through a sieve, then wash it well with cold water (on the sieve), until the water runs off perfectly clear; squeeze the bran in a cloth as dry as possible, then spread it thinly on a dish, and place it in a slow oven—if put in at night, let it remain until morning, when, if perfectly dry and crisp, it will be fit for grinding. The bran thus prepared must be ground fine in a mill, and sifted through a wire sieve of sufficient fineness to require the use of a brush to pass it through; that which does not pass at first ought to be ground and sifted again, until the whole is soft and fine. Take of this bran-powder *three ounces* Troy, *three* fresh eggs, *one ounce and a half* of butter, and rather less than *half a pint* of milk; mix the eggs with part of the milk, and warm the butter with the other portion; then stir the whole well together, adding a *little* nutmeg and ginger, or any other agreeable spice. Immediately before putting into the oven, stir in, first, *thirty-five grains* of sesquicarbonate of soda, and then, *three drachms* of dilute hydrochloric acid. The loaf thus prepared should be baked in a basin (previously well buttered) for about an hour or rather more. Biscuits may be prepared as above, omitting the soda and hydrochloric acid, and part of the milk, and making them of proper consistence for moulding into shape. If properly baked, the loaves or biscuits will keep several days, but should always be preserved in a dry place, and not be prepared in too large quantities at a time."

273. **White Wine Whey.**—"To *half a pint* of boiling milk, add *one* or *two wineglassfuls* of sherry or Maderia. The curd is to be separated by straining through a fine sieve or piece of muslin. Sweeten the whey with refined sugar."—*T. Hawkes Tanner.*

274. **Lime Water and Milk.**—Take saccharated solution of lime,* *one* to *four fluidrachms* and add to *four fluidounces* of milk. This will frequently be retained when all other food is rejected. Bicarbonate of soda, *twelve* or *fifteen grains* to the *quart*, will prevent milk from readily turning sour and render it more easily digestible.

275. **Castillion's Powders.**—"Take of each in powder, sago, salep, and tragacanth *four Troy drachms*, and *one Troy drachm* of powdered prepared oyster shells. Mix and divide into twelve powders. For use, each powder is to be boiled with a pint of milk; which may be sweetened and flavored to suit the patient's taste."—*King.*

276. **Wine, Beef, and Cinchona Enema.**—Take *one ounce* of port wine, equal parts—*three ounces*—of cream and extract of beef, and *one drachm* of tincture of red cinchona. Mix. When the parts are irritable, or more or less painful, an appropriate quantity of opium may be also added. This enema may be administered twice or thrice daily.

277. **Caudle**—"Beat up *one* egg with *a wineglassful* of sherry, and add it to *half a pint* of fine hot gruel. Flavor with sugar, nutmeg, and lemon peel."—*T. Hawkes Tanner.*

278. **Koumys.**—"Andrea Pigatti gives the following method for preparing Koumys from cows' milk:

Cows' milk	*One Thousand*	*Parts.*	(1,000)
Water.......	*Five-Hundred*	"	(500)
Yeast..............	*Twenty*	"	(20)
Honey............	"	"	(20)
Alcohol............	*Thirty*	"	(30)
Wheat flour........	*Fifteen*	"	(15)
Millet flour..........	*Five*	"	(5)

Mix the milk with the water. Mix the flours with the diluted milk. Incorporate the yeast with the honey by trituration in a mortar, gradually adding the alcohol. Then mix all the ingredients together in a strong bottle, taking care that a considerable empty space remains, and secure the stopper, which must be air tight, with a string. In order that fermentation may proceed regularly, care is to be taken that the temperature is kept up between 25° and 30° C. (77° to 80° F.) for twenty-four hours in summer and for forty-eight hours in winter, agitating two or three times during that period. The liquid is then strained through muslin and poured into strong bottles which must be securely stoppered. They are left for twenty-four hours in a temperature of 25° C. (77° F.) being frequently shaken, and are then transferred to a cool place. After a few days the liquid divides into two layers, which may readily be united by agitation. Pigatti asserts that koumys thus prepared keeps for several months unaltered and of a grateful flavor."—*L'Orosi*, 1881, 160.—*New Remedies.*

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* *Liquor Calcis Saccharatus.*—"Take of Slaked Lime *one ounce* (avoir.); Refined Sugar *two ounces;* Distilled Water *one pint* (Imperial)."—*Br.*

279. **Carbon Crackers.**—Take wheat bran and proceed as directed in Paragraph 270. When the bran is ready for grinding, weigh out *three* avoirdupois *ounces*, grind it, and add *one* avoirdupois *ounce* of powdered willow charcoal. Mix and add *three* fresh eggs, *half pint* of milk, in which dissolve *twenty grains* of bicarbonate of soda, knead thoroughly and bake in a quick oven.

280. **Beef and Soda Crackers.**—Take *any* desired quantity of fresh raw beef, scrape with a knife to separate from the membranes, and add *an equal* amount of *rolled* soda crackers; salt to taste and mix thoroughly

281. **Milk Sugar and Milk.**—In cows' milk, the quantity of milk sugar and fat gradually decreases; while at the same time there is a proportional increase of caseine. To dilute the milk, is simply an act which diminishes its already limited nutritive properties. Too frequently, the only objectionable constituent of milk is its caseine; hence, to obviate all deleterious effect likely to occur from the presence of caseine, add milk sugar to the cow's milk in the following proportions: Dissolve *one teaspoonful* of pure milk sugar in *two*, *four*, *six*, or *eight tablespoonfuls* of boiling water, as the case may demand, and then add milk enough that the whole shall measure *one pint.*

282. **Gluten-Bread.**—"Prof. Xav. Landerer directs to prepare gluten-bread by inclosing wheat flour in a linen sack and kneading this under water until no more starch can be washed out, that is until the water remains clear. The gluten remaining in the sack forms the basis of the bread; it is mixed with yeast or

sour dough, also with butter, eggs, and sometimes with chopped meat, sprinkled over with anise or fennel, and then baked. At the same time a generous Greek wine is recommended to be used as a stimulating drink."—*Pharm. Zeit.*

283. **Simple Elixir.**—Fresh, sweet orange peel, in fragments, *one ounce* (avoir.); cardamon seeds *one drachm* (Troy); vanilla bean, cloves, and cinnamon (Ceylon), each *two drachms.* Powder the last four named ingredients coarsely, mix with the orange peel and add alcohol *four fluidounces*, water *eight fluidounces*, and refined sugar *four ounces* (avoir.) Macerate ten days and filter.

284. **Elixir, Citrate of Iron and Quinine.**—Dissolve *one hundred* and *twenty-eight grains* of citrate of iron and quinine in *three* or *four drachms* of warm water, and then gradually add *one pint* of the simple elixir.

285. **Elixir, Pyrophosphate of Iron, Quinine and Strychnine.**—Prof. C. Lewis Diehl, and E. Scheffer, give the following formula: "Take of—

Sulphate of *Quinine*	*Sixty grains.*
Strychnine	*One grain.*
Citric Acid	*Five grains.*
Stronger Alcohol	*Three fluidounces.*
* Sol. of Oil of Orange	*Fifty minims.*
Syrup	*Six fluidounces.*
Pyrophosphate of Iron	*Two hundred and forty grains.*
Distilled Water	*Seven fluidounces.*
Aqua Ammonia	Q. S.

Triturate the sulphate of quinine, strychnine, and citric acid together until minutely divided; then add the alcohol and solution of oil of orange. Warm the syrup slightly (to about 150° F.), and add to the turbid mixture; when, upon stirring, the mixture becomes clear. To this add the pyrophosphate of iron, previously dissolved in the distilled water, and, finally, carefully water of ammonia (drop by drop), until the elixir is perfectly neutral to test-paper; filter. The finished preparation has a greenish-yellow color, a pleasant flavor of orange, and is permanent.

286. **Elixir, Calisaya Bark.**—Proceed as directed in Para-

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* Sol. of Oil of Orange is prepared by dissolving *one part* (by measure) of the essential oil in *nine parts* of alcohol.

graph 283; but, in addition, add *one ounce* (avoir.) of coarsely powdered calisaya bark.

287. **Elixir, Calisaya Bark and Iron.**—Proceed as directed in Paragraph 286, and then add *four measures* of freshly prepared hydrated oxide of iron, *one measure* of alcohol, and, by *small* and *often repeated* additions continue to add this iron solution until the elixir is de-tannated; a fact readily ascertained by the addition of *a drop* of muriated tincture of iron, which, if properly de-tannated, *will not be further colored* by the said addition.

288. **Elixir, Bismuth.**—"Dissolve *two hundred* and *fifty-six grains* of ammonio-citrate of bismuth in *four fluidounces* of distilled water; mix with *twelve fluidounces* of *simple elixir,*[*] and filter."—*Prof. Diehl.*

289. **Elixir, Valerianate of Ammonium.**—"Dissolve *four hundred* and *fifty-six grains* of valerianate of ammonium in *two fluidounces* of simple elixir; carefully add water of ammonia until the solution is exactly neutralized; then mix with *fourteen ounces* of simple elixir; filter and color with cochineal, color to a bright red."—*Prof. Diehl.*

290. **Elixir, Bromide of Potassium.**—"Dissolve *one ounce* of bromide of potassium and *one ounce* of sugar in *one pint* of simple elixir; add *twenty minims* of oil of orange and *ten minims* of solution of oil of bitter almonds,[†] and filter. Color with cochineal."—*Prof. Diehl.*

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[*] The formula for *Simple Elixir* as given by Prof. Diehl is as follows:

" Oil of Orange	*One fluidrachm.*
" Cinnamon	*Ten minims.*
" Anise	*Four minims.*
" Bitter Almond	*Two minims.*
Tinct. Cardamon	*Ten fluidrachms.*
Stronger Alcohol	*Two pints.*

Dissolve the oils in the alcohol, add the tincture and triturate the solution with a previously powdered mixture of—

Cocoa (Baker's)	*One ounce.*
Carb. Magnesium	*Two ounces.*

Then gradually add *four* and *a half pints* of water, transfer the mixture to a gallon bottle, agitate occasionally for several hours and filter. Express the filter between muslin, filter the expressed liquid, mix with the previous filtrate, and dissolve in it *three pounds* of sugar. Filter or strain as may be necessary."

[†] See foot-note to Paragraph 285.

291. **Hale's Nerve Tonic.**—Take *one-half drachm* of muriate of hydrastin, *one drachm* of cimicifugin, *two drachms* of hypophosphite of soda and *thirty-two ounces* each of distilled water and simple syrup. Rub the cimicifugin and hydrastin well together, and, upon the addition of a little water make a thin paste. Dissolve the hypophosphite of soda in the distilled water (one pint) and gradually add to the above paste, triturating the same until dissolved. Filter, and add the syrup. Hale's *Muscular Tonic* is made as directed above, but, hypophosphite of potas (in the same quantity) is substituted for the hypophosphite of soda.—*Dr. E. M. Hale.*

292. **"M, M," Powder.**—Take *ten grains* each of sulphate of morphine and Hahnemann's soluble mercury, and add *eighty grains* of milk sugar, and triturate together, thoroughly.

293. **Hepar Sulphur—Kali Lotion.**—Take hepar sulphur kali (crude) *one half-ounce* and add to *one pint* of water; first treating the sulphurated potas with an *ounce* or *two* of water to which there has been added *ten* or *fifteen* drops of muriatic acid. Agitate well, set aside for an hour or two, and then filter.

294. **Calendula Jelly.**—Dissolve *one* and *one-half ounces* of red gelatine in *one pint* of distilled water by the aid of heat, then add *two ounces* of the tincture of calendula. *Arnica jelly* may be prepared by substituting tincture of arnica for tincture of calendula.

295. **Ointment of Benzinated Oxide of Zinc.**—Take *sixteen ounces* (avoir.) of freshly rendered lard and *one ounce* of gum benzoin, in coarse powder, and heat them together in a water-bath for an hour or two with occasional stirring; then strain through muslin and stir constantly until cool. To *one ounce* of the benzinated lard add *four drachms* of oxide of zinc; melt the lard, stir in the zinc, and continue stirring until cool.

296. **Ointment, Compound Phytolacca.***—Take *four ounces*

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* The ingredients used here, were first named by Dr. E. M. Hale in a prescription for hemorrhoids. The quantities used, and method of preparation is given as then prepared, at the time (1867), by the author.

of fresh phytolacca root, slice thin, bruise and moisten with alcohol. Take *twelve ounces* (avoir.) of fresh lard and *four ounces* of yellow wax, melt, and add the phytolacca root; allow it to slowly simmer until all moisture is driven off and the phytolacca *floats* crisp and dry upon the surface of the fat; strain. To *one ounce* of phytolacca ointment add *one grain* of tannin, *thirty drops* of tincture of stramonium and *three grains* of iodine. Dissolve the iodine by triturating it with the stramonium—adding a *few drops* of alcohol, if necessary—then adding the tannin and finally incorporating the whole with the phytolacca ointment. This ointment (compound phytolacca) should *invariably* be made cold.

297. **"Surgical Salve."**—Take neat'sfoot oil and linseed oil each *four fluidounces*, red lead and white lead (dry) each *two ounces* (avoir.), resin *three ounces*, yellow wax *one* and *one-half ounces*, gum myrrh and camphor each *one-half ounce*, Jamaica rum *three ounces*, and mix as follows: Oils and lead mix thoroughly together; mix gums and rum together; mix together and melt the resin and wax, then other ingredients, and stir until sufficiently thickened that no separation of the component parts can possibly occur.—*Dr. A. E. Small.*

298. **Ointment, Nitric Acid.**—Take olive oil *one fluidounce*, white wax *one drachm* (Troy), spermaceti *one-half drachm*, and nitric acid *one fluidrachm*. Melt wax and spermaceti together in porcelain capsule, and add the oil, and lastly the acid, and then stir with a *glass rod* until cold.

299. **Chloroform Liniment.**—Take *five fluidounces* of soap liniment,* *one* and *one-half fluidounces* of water of ammonia, *one-half fluidounce* of compound spirits of lavender and *one fluidounce* of chloroform. Mix.

300. **Compound Soap Liniment.**—Digest for a day or two, or until emulsified, in a moderately warm temperature, *one* and *one-half Troy ounces* of powdered castile soap, *two* and *one-half*

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* *Soap Liniment.* Take of soap (castile), in shavings, *four Troy ounces*; camphor *two Troy ounces*; oil of rosemary *half a fluidounce*; water *four fluidounces*; alcohol *two pints*. Mix the alcohol and water, digest the soap with the mixture by means of a water-bath, until it is dissolved; then filter, and, having added the camphor and oil, mix the whole thoroughly together.—*U. S. Disp.*

Troy ounces of powdered carbonate of ammonia, *two Troy ounces* of powdered gum camphor, and *three fluidounces* each of the oils of turpentine and fireweed. Then add warm water, *gradually*—enough to measure *one-half* gallon—and shake vigorously; to emulsify.

301. **Compound Digestive Powder.**—Mix *one drachm* each of pepsin, subnitrate of bismuth and nux vomica (3d trituration) with *five Troy ounces* of milk sugar.—*Dr. N. B. Delamater.*

302. **Compound Laxative Powder.**—Mix *equal parts* of nux vomica 2d dec. trituration, mercurius solubilis 2d dec. trituration, hydrastis 3d dec. trituration and podophyllin 2d dec. trituration.—*Dr. N. B. Delamater.*

303. **Nutritive Tonic.**—Dissolve *three drachms* of Liebig's extract of beef in *six fluidounces* of simple elixir; then add, and dissolve, *one-half drachm* of citrate of iron and quinine. Then dissolve *eighty grains* of freshly prepared phosphate of lime in a little water containing *one fluidrachm* of dilute phosphoric acid, and add to the above. Finally, dissolve *one hundred* and *sixty grains* of phosphate of soda in *equal parts* of simple syrup and water, or, in a sufficient quantity of both, to make the whole, when added to the other ingredients, measure *eight fluidounces.*

304. **Hamburgh Plaster. Brown Plaster. Mother's Plaster.**—"Mix together, in an iron capsule, *sixty-four fluidounces* of olive oil and *thirty-two Troy ounces* of red lead and boil together until black; then add *eighteen Troy ounces* of yellow wax and *twelve Troy ounces* of Burgundy pitch and when dissolved add *one Troy ounce* of gum camphor and stir constantly until cool." —*German Pharm. Handbuch.*

305. **Uterine Injection.**—Take *one ounce* each of myrica, calendula (flowers,) and hydrastis canadensis and grind to a coarse powder and divide into *twelve equal* parts. Add *one part* to *one-half pint* of hot water, strain, and use as a vaginal injection.—*Dr. E. M. Hale.*

306. **Chalk Mixture.**—"Mix *one-half Troy ounce* of prepared chalk, *two drachms* each of refined sugar and powdered gum arabic, rub them together until thoroughly mixed and gradually

add *four fluidounces* each of cinnamon water * and water."—*U. S. Disp.*

307. **Antispasmodic Mixture.**—Mix together *two fluidrachms* of acetic ether, and *one* and *one-half fluidounces* each of spearmint water† and simple syrup.

308. **Carbolized Glycerole of Egg.**—Mix *five parts* (by measure) of egg (yolk and white), and *three parts* of carbolized glycerin. Carbolized glycerin is a twenty per cent solution of carbolic acid in glycerin.

309. **Glycerin Lotion.**—Mix *one part* (by measure) of acetic acid, *two parts* of glycerin and *five parts* of either orange flower, rose, or Florida water.

310. **Iodoform Bougies.***—The hospital at Heidelberg, Germany, requires bougies containing at least ninety per cent of iodoform, but *no gelatin.* These are prepared, according to K. Mueller, in the following manner: *Ninety-two* and *five-tenths parts* of iodoform triturated with alcohol are rubbed up, in a warm mortar, with a solution of *five parts* of gum arabic, *two* and *five-tenths parts* of glycerin, and *two* and *five-tenths parts* of water, until a plastic mass results. This is formed into bougies which are rolled out between two boards; each bougie is *ten centimeters* (3.9 inches) long and contains about *three* and *five-tenths grams.* If the mass is too friable, a little water may be added. The bougies are afterward placed in a warm situation for a couple of hours, when they will be ready for use. They contain now: iodoform 92.5; glycerin 2.5; gum arabic, 5 parts. To avoid their flattening during the drying, by their own weight,

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*CINNAMON WATER.—

Oil of Cinnamon	*Two parts.*
Cotton	*Four parts.*
Distilled Water	*A sufficient quantity.*

"Add the oil to the cotton, in small portions at a time, distributing it thoroughly by picking the cotton apart after each addition; then pack it firmly in a conical percolator, and gradually pour on distilled water until *one thousand parts* of percolate are obtained."—*Pharm. of the U. S.*

CINNAMON WATER.—"Take of oil of cinnamon *half a fluidrachm;* carbonate of magnesia *sixty grains;* distilled water *two pints.* Rub the oil first with the carbonate of magnesia, then with the water, gradually added, and filter through paper."—*U. S. Disp.*

† In preparing the spearmint water, substitute oil of spearmint for the oil of cinnamon and proceed as directed for cinnamon water. See Paragraph 306.

they should be supported along both sides by a small roll of wax paper.—*With gelatin.* Dr. Valpins directs these to be made as follows: Dissolve *fifteen parts* of the finest gelatin in *fifty parts* of water; add *seven* and *five-tenths parts* of glycerin on a water-bath, evaporate the solution to *fifty-four parts,* and mix it intimately, by stirring, with *twenty-seven parts* of iodoform triturated with alcohol. Then pour the mixture into a moderately warm mould,* which is to be immediately placed in ice-water to produce a rapid congelation, and thereby prevent the settling of the heavy iodoform. The cylinders are then dried in a warm atmosphere, until they have lost *one-third* of their weight.—*New Remedies.*

311. **Urethral Suppository.**†—Dissolve *fifteen parts* of gelatin in *thirty-three parts* of water; add *eight parts* of glycerin, over a water-bath, then add *two parts* of extract of hydrastis, then *two parts* of acetate of zinc, and finally, *one-fourth part* of sulphate of morphine. Pour the mixture into a mould, rapidly chill with ice-water, and then dry in a warm atmosphere.

312. **Churchill's Tincture of Iodine.***—"Mix *one drachm* of iodine, *two drachms* of iodide of potassa, and *two fluidounces* each of distilled water and alcohol."—*Drug Cir. and Chem. Gaz.*

313. **Magendie's Solution of Morphine.**—Dissolve *sixteen grains* of sulphate of morphine in *four hundred* and *eighty grains* (one fluidounce) of *boiling* distilled water. Filter through paper, adding sufficient distilled water to measure *one fluidounce.*

314. **P. B. S. Powder.***—"Mix together, thoroughly, *one hundred parts* each of pepsin, subnitrate of bismuth and bicarbonate of soda."—*Drug Cir. and Chem. Gaz.*

315. **Ointment of Iodoform.**—*One drachm* of iodoform to

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*The *bougie* or *pencil* mould is readily made by rolling thin sized paper over a smooth polished rod of steel. which must be of a suitable diameter, and then fastening the lapping edge with a strong solution of gum dextrin. The rod is now partially withdrawn, and the opening at the end, thus left, is filled with cotton wool *saturated* with gum shellac varnish. Before using the mould *saturate* it with any one of the fixed oils.

†INTRA-UTERINE SUPPOSITORIES containing the extract of *red clover* may be made in the same manner substituting extract of red clover for the extract of hydrastis.

one ounce of vaseline, cosmoline, petrolina, or simple ointment.

316. **Carbolized Vaseline.***—"Melt each, separately, *one ounce* of carbolic acid (cryst), and *twenty ounces* of vaseline and then mix."—*Drug Cir. and Chem. Gaz.*

317. **Compound Syrup of Hypophosphites.***"-Mix *two grains* each of hypophosphite of lime, hypophosphite of soda, and *one grain* each of hypophosphite of potassa, hypophosphite of iron and a *sufficient quantity* of the solution of hypophosphoric acid to dissolve the salts; then add *equal parts* of glycerin and distilled water to measure *one fluidrachm.*"—*Drug Cir. and Chem. Gaz.*

318. **Hydrastia Tonic.**—Dissolve *sixty grains* of sulphate of quinine in a *fluidounce* of water acidulated with *thirty minims* of pure hydrochloric acid; add *one fluidrachm* of fluid hydrastia, *three ounces* of refined sugar, and orange water sufficient to measure *six fluidounces.*

319. **Infusion of Red Peruvian Bark.**—Take *two ounces* of red bark, *two drachms* of red saunders and grind to a coarse powder. Mix together *one fluidounce* of dilute phosphoric acid, *four fluidounces* of glycerin, and *fourteen fluidounces* of water. Moisten the bark well with the above menstruum, and then pack in a percolator; add the menstruum, and when it has about passed through, then add an *ounce* or *two* of water that the percolate shall measure *one pint.*

320. **Purified Cotton.***—"Macerate commercial cotton batting in benzine for ten minutes, press it, and dry it in the air."—*New Remedies.*

321. **Iodized Cotton.***—"Wrap *one part* of iodine in filter paper, place this on the bottom of a wide-mouthed bottle, next introduce *twelve parts* of purified cotton, and insert the stopper. Let the flask stand in a moderately warm place until the cotton appears to be colored uniformly by the iodine. Preserve it in a glass-stoppered bottle, in a cool place, protected from the light."—*New Remedies.*

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* These several formulas, Paragraphs 310, 312, 314, 316, and 317, are taken from the list of the official formulæ used in the New York Hospital.

322. **Borated Cotton.***—Take a *sufficient quantity* of purified cotton, *ten parts* of boric acid and *ninety parts* of water. Dissolve the boric acid in the water by heating to a temperature of about 60° C. (140° F). Saturate the purified cotton with the solution, wring it out, dry it, pick it, and preserve it in well-closed vessels.—*New Remedies.*

323. **Salicylated Cotton.***—Take *one hundred parts* of purified cotton, *ten parts* of salicylic acid, *one hundred parts* of stronger alcohol, and *one part* of glycerin. Dissolve the acid in the alcohol, add the glycerin, and saturate the cotton with the solution. Dry the latter in the air, pick it, and preserve it in well-closed vessels.—*New Remedies.*

324. **Iodoform Cotton.***—Take *two parts* of iodoform, *ten parts* of ether, *twenty parts* of stronger alcohol, *ten parts* of glycerin and thirty parts of purified cotton. Dissolve the iodoform in the ether and alcohol, add the glycerin, and saturate the cotton with the solution. Dry the latter in the air, pick it, and preserve it in glass-stoppered bottles.—*New Remedies.*

325. **Styptic Cotton.***—Take *two parts* of solution of chloride of iron (sp. gr. 1480), *twelve parts* of distilled water, *one part* of potas-alum and a sufficient quantity of purified cotton. Dissolve the alum in the water, add the solution of chloride of iron, and soak a sufficient amount of purified cotton in the mixture. Dry it at a temperature below 60° C. (140° F). Pick it and preserve it in a stoppered bottle.—*New Remedies.*

326. **Effervescing Citrate of Magnesia.**—Rub *twenty-five parts* of carbonate of magnesia and *seventy-five parts* of citric acid with *one part* of distilled water and dry the mixture at 50° or 60° C. (112° or 140° F.), until it is converted into a dry powder. Then add to it *ninety-one parts* of bicarbonate of soda, *twenty-one parts* of fine sugar and *forty-two parts* of citric acid previously mixed together. Dampen the mass with stronger alcohol, and pass the damp powder through a sieve having meshes of 1.5 millimeter in diameter. Dry the product at a gentle heat, and preserve it in well-closed vials.—*New Remedies.*

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* Paragraphs 320, 321, 322, 323, 324 and 325 are selections from the "Non-officinal Formulary of the Dutch Society for the Advancement of Pharmacy."

327. **Iodo-borated Hydrastia Cotton.**—Take *eight parts* of tincture of iodine, *ten parts* of boracic acid, *sixteen parts* of fluid hydrastia and a sufficient quantity of water to make *one hundred parts.* Dissolve the boracic acid in *sixty-six parts* of water, heated to 140° F., and add the fluid hydrastia, and, when cool, the tincture of iodine, and then saturate any desired quantity of purified cotton; wring it out, air dry it, pick it, and preserve it in a well-closed bottle from both light and air.

328. **Acute Rheumatism Mixture.**—Mix *two drachms* of salicylic acid, *two fluidrachms* of tincture of cimicifuga racemosa, *two fluidrachms* of compound tincture of cardamon,* *five fluidounces* of Holland gin, and a sufficient quantity of simple syrup to make *eight fluidounces.* Dissolve the salicylic acid in the gin, add the tinctures and then the syrup.

329. **Acute Rheumatism Mixture.**—Mix *two Troy ounces* of bicarbonate of soda, *two Troy ounces* of salicylate of soda, *sixteen fluidounces* of water, and a sufficient quantity of compound syrup of sarsaparilla † to make *thirty-two fluidounces.*—*Franks.*

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* COMPOUND TINCTURE OF CARDAMON.—"Take of cardamon, in moderately fine powder, three hundred and sixty grains; caraway, in moderately fine powder, one hundred and twenty grains; cinnamon, in moderately fine powder, three hundred grains; cochineal, in moderately fine powder, sixty grains; clarified honey, two Troy ounces; dilute alcohol, a sufficient quantity. Mix the powders, and, having moistened the mixture with half a fluidounce of dilute alcohol, pack it in a cylindrical percolator, and gradually pour dilute alcohol upon it until two pints and six fluidounces of tincture are obtained. Lastly, mix this with the clarified honey, and filter through paper."—*U. S. Disp.*

†COMPOUND SYRUP OF SARSAPARILLA.—"Take of sarsaparilla, in moderately coarse powder, *twenty-four Troy ounces;* guaiacum wood, in moderately coarse powder, *three Troy ounces;* pale rose, in moderately coarse powder, senna, in moderately coarse powder, licorice root, in moderately coarse powder, each *two Troy ounces;* oil of sassafras, oil of anise, each *five minims;* oil of gaultheria, *three minims;* sugar, in coarse powder, *ninety-six Troy ounces;* diluted alcohol, a *sufficient quantity.* Mix the solid ingredients, except the sugar, with *three pints* of diluted alcohol, and allow the mixture to stand for twenty-four hours; then transfer it to a cylindrical percolator, and gradually pour diluted alcohol upon it until *ten pints* of tincture have passed. Evaporate this, by means of a water-bath, to *four pints,* filter, and, having added the sugar, dissolve it with the aid of heat, and strain the solution while hot. Lastly, rub up the oils with a small portion of the solution, and mix them thoroughly with the remainder."—*U. S. Disp.*

330. **Phthisis Mixture.***—Mix *eight fluidounces* of cod liver oil, *eight fluidounces* of compound syrup of hypophosphites, and *one-half fluidounce* of sulphuric ether.

331. **Sedative Cough Mixture.***—Mix *one fluidrachm* of diluted hydrocyanic acid, *four grains* of sulphate of morphine, and *eight fluidounces* of syrup of licorice.

332. **Iodoform Pencils.***—Mix *one part* each of iodoform and powdered gum arabic, and *two parts* of gum dextrin; add a limited quantity of carbonate of magnesia. Rub together thoroughly and add a sufficient quantity of simple syrup to form a mass; then roll to make the required diameter.

333. **Colic Mixture.***—Mix *four fluidounces* each of chloric ether and Hoffman's anodyne; and add *two fluidrachms* each of tincture of capsicum and compound spirits of lavender.

334. **Rheumatism Mixture.***—Dissolve *one Troy ounce* each of iodide of potas. and salicylate of soda in *one pint* of water. Add *two fluidounces* of tincture of cimicifuga racemosa and *one pint* of compound syrup of sarsaparilla.

335. **Hospital Liniment.***—Mix *two fluidounces* each of tincture of camphor, water of ammonia, and tincture of arnica, *eight fluidounces* of alcohol, and sufficient water to make *one pint.*

336. **Carbolic Acid, 5 per cent Solution.***—Mix *six fluidounces* each of glycerin and carbolic acid (crystal); add to *one gallon* of water. To make a 2.5 per cent solution (fcr gynecological uses), reduce the above one-half; adding 2.5 per cent of glycerin.

337. **Sedative Cough Powder.**—Mix *one part* of sulphate of morphine and *nine* and *one-half parts,* each, of powdered gum arabic and milk sugar.

338. **An Emollient for Comedones.**—Mix *four parts* of kaolin, *three parts* of glycerin, and *two parts* of acetic acid. Apply at night.—(*Archives de Virchow.*) *New York Medical Times.*

339. **Suppository Mass.**—Mix *three Troy ounces* of cacao

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* These several formulas, Paragraphs 329, 330, 331, 332, 333, 334, 335 and 336, are from the officinal formulæ used in the Cook County Hospital, Chicago..

butter, *three fluidrachms* of glycerin, and *one Troy drachm* of gum dextrin. Triturate the cacao butter in a mortar, add the glycerin, and then incorporate the dextrin. This mass forms a most suitable vehicle for both rectal and vaginal medicaments. For instance, for such alkaloidal salts, resinoids, alkaloids, etc., as are soluble in either fats or glycerin; and also for such as readily mix with them. The mass and medicaments should be mixed by triturating without the aid of heat The suppositories should be formed *cold;* that is, rolled out by the aid of the fingers and the spatula.

340. **Black Wash.**—Mix *one Troy drachm* of calomel, *one fluidounce* of glycerin, and *five fluidounces* of lime water.

341. **Carbolized Linseed Oil Ointment.**—Mix *five parts* of linseed oil, *one part* of oil of turpentine, *two parts* of yellow wax, and *one-tenth of one part* of carbolic acid. Mix the oils and wax, fuse them together, and when chilled add the carbolic acid and stir until cold.

342. **Mouth Wash** (*In Aphthæ*).—Dissolve *forty grains* of hyposulphite of soda in *one-half fluidounce* each of glycerin and rose water.

343. **Syrup of Red Clover.**—Take *one pound* of fresh red clover tops, place them in a mortar and bruise them thoroughly, or, else run them through the drug mill; add *two fluidounces* of alcohol (95 per cent) and *four fluidounces* of glycerin. Macerate for twelve hours. Express the fluid portion, filter, and add sufficient quantity of water and refined sugar to make a syrup having the sp. gr. 1·317.

344. **Chlorodyne.**—"Mix *two fluidounces* of chloroform, *one-half fluidounce* of ether, *seven fluidounces* of alcohol (95 per cent), *six fluidrachms* of essence of peppermint, *six fluidrachms* of tincture of capsicum, *two fluidounces* of compound tincture of cardamon, *two fluidounces* of fluid extract of licorice, *one fluidounce* of diluted hydrocyanic acid, *sixteen fluidounces* of glycerin, and *forty grains* of sulphate of morphine. The ingredients used in this formula should be standard preparations of the United States Pharmacopœia, and may be compounded by putting them into a quart bottle, in the order given, and shaking them together till solution is effected. This measures when com-

plete *thirty-two fluid ounces.* Dose, the same as Brown's Chlorodyne, for an adult, from *ten* to *thirty drops.*"—*John H. Gilman, M. D.*

345. **Camphorated Chloride of Lime.***—"Dissolve *five parts* of powdered camphor, in *twenty-five parts* of alcohol in a glass flask, and add *fifty parts* of chloride of lime, and *one hundred and fifty parts* of water. The ingredients must be thoroughly mixed, by allowing the mixture to stand for several days, during which time it must be well shaken every now and then. This having been done the preparation must be filtered through bibulous paper. To the residue remaining in the filter a small quantity of dilute alcohol should be added so as to dissolve as much as possible out of the mixture."—*Carlo Paresi, Annali. di Chimica.*

346. **Capsicum Gargle.**—Mix *one hundred and twenty grains* of dried alum, *thirty minims* of tincture of cayenne pepper, *one fluidounce* of glycerin, and *seven fluidounces* of rose water.—

347. **Sulphurous Acid Gargle.**—Mix *two hundred and forty grains* of dried alum, *twenty grains* of chlorate of potas. *three fluidrachms* of sulphurous acid, *one fluidounce* of glycerin, *three fluidounces* of camphor water, and *four fluidounces* of rose water.

348. **Lister's Boracic Acid Ointment.**—"Fuse together *one part* of white wax, *two parts* of paraffin, *two parts* of almond oil, and add *one part* of finely powdered boracic acid, stirring until cold."—*American Pharmacist.*

349. **Plummer's Pills.**—Take *twelve grains* each of sulphurated antimony and mild chloride of mercury, and *twenty-four grains* each of gum guaiac (in fine powder) and molasses. Mix, form mass and divide into *twenty-four* pills. Milk sugar (twenty-four grains) may be substituted for the molasses and the mixture divided into *twenty-four* (3 gr.) powders; each powder, thus compounded, contains *one-half* grain each of the antimony and mercury, and *one grain* each of the guaiac and milk sugar.

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* A new non-poisonous, non-irritating antiseptic.

350. **Temperature of Baths.**—

Bath.	Water.	Vapor.	Air.
The Cold	33° to 65° F.		
" Cool	65° to 75° "		
" Temperate	75° to 85° "		
" Tepid	85° to 92° "	90° to 100°	96° to 106°
" Warm	92° to 98° "	100° to 115°	106° to 120°
" Hot	98° to 112° "	115° to 140°	120° to 170°

351. **Iodine Bath.**—"Take *sixty grains* of iodine, *two hundred and forty grains* of iodide of potas, and *two fluidounces* of liquor of potas; dissolve the iodine in about *thirty fluidounces* of water, first adding, however, the liquor and iodide of potas. and then sufficient warm water to measure *thirty gallons*."—*T. Hawkes Tanner.*

352. **Sulphur Bath.**—"Take *four Troy ounces* of sulphuret of potas. *one Troy ounce* of hyposulphite of soda, and *one fluidrachm* of sulphuric acid; dissolve the potas. in *sixteen fluidounces* of water to which the acid has been added, then add the soda and sufficient warm water to measure *thirty gallons*."—*T. Hawkes Tanner.*

353. **Salt-Water (Sponge) Bath.**—Dissolve *eight avoirdupois ounces* of sea salt in *four gallons* of tepid water. To this may be added, if desired, *eight avoirdupois drachms* of sulphate of magnesia and *fifteen grains* of iodide of potassium.

354. **Wet-Sheet Packing.**—"The patient is closely enveloped in a sheet which has been dipped in cold or tepid water and well wrung out. He is then carefully wrapped in a blanket, covered with three or more blankets, and a down coverlet is tucked over all. He should remain thus for thirty, forty-five, or sixty minutes, lying on his side, or in a semi-recumbent position; the duration being timed by the sedative effect produced. The sweating is not generally excessive. But the water, urea, and chloride of sodium of the urine are slightly increased; this increase being considerable when the sheet is continued for three or four hours. At the conclusion the shallow bath (a sponge bath will answer) may be used for two or three minutes, as a tonic."

"*A blanket-bath* affords an easy means of inducing sweating. A blanket is wrung out of hot water, and wrapped around the patient. He is to be packed in three or four dry blankets, and allowed to repose for thirty minutes. The surface of the body should then be well rubbed with warm towels, and the patient made comfortable in bed."

"The *wet compress* consists merely of a roll of flannel, dipped in cold water and wrung out, and then applied around and over the seat of pain. Over this a piece of water-proof cloth, or a second woolen bandage is to be worn."—*T. Hawkes Tanner.*

355. **The Turkish Bath.**—"The general effect of a hot air bath is to increase the force and rapidity of the circulation, and to induce free perspiration; but if too hot or too prolonged the determination of blood to the skin and lungs becomes so great that the brain suffers. There is then consequently a lowering of the circulation, with depressed nervous power. A temperature varying from 120° to 165° will usually suffice; while if the perspiration is efficient and continuous, and the sensation agreeable, the patient may remain in the calidarum for from forty to sixty minutes. The bath is *useful* in removing local congestions, in clearing the pores and in inducing a healthy condition of the skin and mucous membranes, in eliminating noxious matters from the blood, and in imparting a sense of elasticity and vigor to the system. It is *injurious* when there is any obstruction to the circulation, or when the heart or vessels are affected with fatty degeneration, or when there are any symptoms of disease of the nervous centers, or when there is a tendency to vertigo or syncope, and in advanced life. Women who are pregnant, or who are menstruating, ought not to have recourse to it."—*T. Hawkes Tanner.*

356. **Spray Inhalants.**—The following drugs, in the quantities named, are to be added to one fluidounce of pure glycerin and water, in proportion of two parts of the former to six parts of the latter:

Borax	5	to	20	grains.
Bromine	1	"	2	minims.
Bromide of Ammonium	2	"	15	grains.
" " Potassium	3	"	15	"
Carbolic Acid	5	"	10	minims.
Chlorate of Potassa	3	"	15	grains.
Chloride of Soda	5	"	40	"
Dried Alum	10	"	30	"
Extract of Belladonna	¼	"	1	"

“ “ Opium	¼ “ 1 “
Fluid Hydrastis	10 “ 30 minims.
Iodide of Ammonium	1 “ 5 grains.
“ “ Potassa	2 “ 10 “
Muriate of Ammonia	5 “ 20 “
Nitrate of Silver (cryst's)	1 “ 5 “
Pinus Canadensis	30 “ 60 minims.
Sulphate of Zinc	2 “ 10 grains.
Sulphurous Acid	10 “ 60 minims.
Tannin	3 “ 15 grains.
Tar	2 “ 10 “
Perchloride of Iron	5 “ 30 minims.
Tinct. Iodine	1 “ 10 “
Pyroligneous Acid	3 “ 10 “

Alcohol must be substituted for the glycerin in preparing the following:

Bals. Peru	10 to 30 grains.
Oil of Copaiba	5 “ 20 minims.
“ Eucalyptus	10 “ 30 “
Salicylic Acid	3 “ 15 grains.

357. The following preparations may be used, either as *spray inhalants*, or as *gargles*:

(1.) Take *two grains* of bichromate of potash and *four fluidounces* of rose water. Mix.

(2.) Take *ten grains* of permanganate of potash and *two fluidounces* of distilled water. Mix.

(3.) Take *ten grains* of bicarbonate of soda, *two fluidrachms* of tincture of hydrastis can. and *three fluidounces* each of water and syrup of orange peel. Mix.

(4.) Take *fifteen grains* of chlorate of potas., *two fluidrachms* of tincture of bloodroot, and *four fluidounces* of distilled water. Mix.

(5.) Take *four fluidounces* of alcohol, *two fluidrachms* of glycerin, and *one fluidrachm* of tincture of hydrastis canadensis. Mix.

6. Take *one fluidrachm* of tincture of iodine, *three fluidrachms* of tincture of camphor, and *eight fluidounces* of distilled water. Mix and filter.—*F. L. Peiro, M. D.*

358. FRIGORIFIC MIXTURES.

Mixture.	Parts.	Therm. Sinks.
Muriate of Ammonia,	5	From 50° to 10°.
Nitrate of Potassa,	5	
Water,	16	

Nitrate of Ammonia,	1	From 50° to 4°.
Water,	1	
Muriate of Ammonia,	5	From 50° to 4°.
Nitrate of Potassa,	5	
Sulphate of Soda,	8	
Water,	16	
Ice or Snow,	2	From 32° to 5°.
Common Salt,	1	

—*Walker.*

359. EFFECTS OF TEMPERATURE.

	Degrees below Zero.
Mercury freezes	39
Proof spirits and brandy freeze	7
	Degrees above Zero.
Solution of 1 salt in 3 water freezes	4
Solution of 1 salt in 4 water freezes	7
Mixture of 1 alcohol 3 water freezes	7
Oil turpentine freezes	16
Strong wines freeze	20
Vinegar freezes	28
Milk freezes	30
Glacial acetic acid solidifies	36
Olive oil congeals	36
Butter melts	92
Ether boils	98
Temperature of the human blood	98
Phosphorus melts	99
Lard melts	97 to 100
Tallow melts	103
Spermaceti melts	112
Vegetable or myrtle wax melts	120
Beeswax melts	142
Stearin melts	144
White wax melts	155
Alcohol boils	172
Water boils	212
Saturated sol. of muriate of ammonia boils	236
Saturated sol. of acetate of soda boils	256
Linseed oil boils	600

CHAPTER XI.

Toxicology.

360. Dunglison defines the word poison to be a generic name for all substances which act in a noxious manner on the vital properties or texture of organs when introduced into the animal economy either by cutaneous absorption, respiration, or the digestive canal.

361. Poisons are derived from each of the three great kingdoms of nature, and are divided into two classes: inorganic and organic poisons. In brief, that which most interests the pharmacist so far as poisons are concerned is a knowledge of their *nature* and a knowledge of their *antidotes*.

362. **Mineral and Vegetable Acids.**—For poisoning by *sulphuric, muriatic,* and *nitric* acids: Give freely of the carbonates of lime (chalk or whiting), magnesia, soda (washing or baking soda), and potassa (sal. tartar) in milk, or, in some mucilaginous drink. In case of poisoning by *nitric* acid give carbonates of lime and magnesia, but *do not give* either carbonates of soda or potassa. In the *absence* of these give strong soap suds, plaster from the walls, linseed tea, linseed oil, sweet or olive oil, corn meal gruel, and barley water. To *relieve pain* give small doses of morphine hypodermatically. In case of *collapse* give stimulants (brandy, whisky, etc.) hypodermatically.

363. For poisoning by *acetic, carbolic, citric, oxalic, tartaric,* and *prussic* acids: Give the same remedies as enumerated above; except in case of poisoning by *carbolic* acid, when lime water, sweet oil, or lard, should be given freely, every hour, until

relief is obtained; using stimulants hypodermatically if required. In case of poisoning by *oxalic* acid the alkaline carbonates (ammonia, soda, and potassa) should *not be given.* For poisoning by *prussic* acid use cold douche, apply electricity, induce artificial respiration, apply stimulating friction to the chest, and cautiously give inhalations of ammonia or chlorine gas. Strychnine and whisky may be given hypodermatically. Administer food per rectum.

364. **Alkalies and their Salts.**—For poisoning by *ammonia, potassa,* and *soda:* In *very* recent cases, that is to say *immediately,* give freely of the vegetable acids such as vinegar, lemon juice, orange juice, or a solution of citric or tartaric acids. In more remote cases give freely of some one of the fixed oils; of almond, castor, linseed or olive oils; even lard. Afterwards use the stomach-pump; and subsequently, gently wash out the stomach with warm water. Give mucilaginous drinks and administer food per rectum.

365. **Earths and Earthy Compounds.**—For poisoning by *carbonate, chloride,* and *nitrate* of baryta: Give sulphate of soda or magnesia, phosphate of soda, or any of the fixed oils. For poisoning by *lime* give any of the fixed oils; and, after using the stomach-pump, gently wash out the stomach with warm water.

366. **Alcohol.**—For poisoning by *spirituous liquors,* such as *brandy, whisky, gin, etc.:* Give freely of warm mustard water, or of a solution of sulphate of zinc (15 or 20 grs.) or tartar emetic (1 to 2 grs.). Apply cold douche to the head, and in case of great coldness of the extremities warm flannels and friction. In severe cases ammonia, digitalis, and caffein are to be given hypodermatically.

367. **Gases.**—For poisoning by *chlorine:* Give cautiously, inhalations of aqua ammonia, ether, or sulphide of ammonium. Induce artificial respiration. For poisoning by *carbonic acid* or *carbonic oxide* apply cold affusions to the head, cold douche, galvanism, inhalation of oxygen, and induce artificial respiration.

368. For poisoning by *iodine:* Give mixture of starch, arrowroot, or wheat flour in cold water (iodine combines with starch forming an insoluble compound). Subsequently give an emetic.

For poisoning by *hydrate of chloral*: Give strong coffee, or stimulants. Induce artificial respiration, apply electricity, and give patient hot bath, or pack. Employ stomach-pump, and give ammonia, caffein and strychnia hypodermatically.

369. **Metals.**—For poisoning by *chloride*, *oxide*, and *tartrate* (ant. et pot. tart.) of *antimony:* Give freely of a decoction of oak bark, or of any substance the astringency of which is either dependent upon gallic or tannic acids. Give freely of milk; or of carbonate or calcined magnesia in milk, or of warm greasy water to induce vomiting. For poisoning by *arsenious acid* (white arsenic): Give hydrated peroxide of iron, recently prepared in large doses (½ to 1 oz.), every ten or fifteen minutes until relief is obtained; give perchloride of iron (officinal solution) and calcined magnesia twenty or thirty minutes afterwards, using one drachm of the latter to about three fluidounces of the former; give dialyzed iron, in the absence of either the hydrated peroxide or the perchloride of iron. Give sulphate of zinc (15 or 20 grs.); emetic effect to be kept up by albuminous or warm mucilaginous drinks. For poisoning by either the *yellow* or *red sulphuret*, proceed as directed above. For poisoning by *Fowler's solution*, give copious draughts of lime water; eggs, milk, and lime water; equal parts of lime water and of any one of the fixed oils. In all cases of poisoning by the *arsenious salts* give full doses of castor oil, as a purgative, in about an hour after giving the antidote. Depression of nerve power is to be met with stimulants; brandy, etc., to be given hypodermatically. All nourishment to be given per rectum. For poisoning by *bismuth:* Give milk and mucilaginous drinks; emetics; or use stomach-pump. For poisoning by *acetate*, *carbonate*, and *sulphate* of copper: Give milk and white of eggs. Give sulphide of iron, magnesia, and sulphate of soda. *Do not administer* any acid drinks. For poisoning by *salts of gold:* Give strong solution of sulphate of iron. For poisoning by *chloride* and *sulphate of iron:* Give carbonates of ammonia, soda, and magnesia, diluents, and mucilaginous drinks. For poisoning by *acetate*, *carbonate*, and *red oxide of lead:* Give for the soluble salts white of egg and milk; Glauber's salts; epsom salts; phosphate of soda; emetic of sulphate of zinc; or use stomach-pump. For the *solid forms* give freely of diluted sulphuric acid. For poisoning by *cyanide*, *nitrate*, and *sulphate of mercury*, *corrosive sublimate*, *red oxide*, and *red sul-*

phuret of mercury: Give freely of white of egg and milk, flour paste made with milk and water, sweet oil and milk, mucilaginous drinks. Give morphine hypodermatically. For poisoning by *nitrate of silver:* Give freely of a saturated solution of common salt and use stomach-pump; subsequently, give mucilaginous drinks. For poisoning by *chloride* and *oxide of tin:* Give copious draughts of milk, and of white of egg and water. For poisoning by *acetate* and *sulphate of zinc:* Give freely of white of eggs and milk, solution of tannin or decoction of white oak bark. Give solution of carbonate of potassa or soda to decompose the salts. Give mucilaginous drinks and use stomach-pump. For poisoning by *phosphorus:* Give freely of white of eggs, and mucilaginous drinks with carbonate of magnesia in suspension. *Do not give* any oleaginous mixture, as the fixed oils are solvents for phosphorus. For poisoning by the ingesta of *glass* (mechanical irritant): Give bread crumbs in large quantities to envelop the particles of glass, and then administer emetic of sulphate of zinc. Subsequently, give mucilaginous drinks.

370. **Vegetable and Animal Irritants.**—For poisoning by *aconite, belladonna, digitalis, stramonium, Spanish fly,* and *potato fly:* Give immediately half fluidrachm of spirits of camphor in teacupful of hot water in case of poisoning by *aconite.* Subsequently, give an emetic if vomiting has not already been induced, or use stomach-pump if at hand. Give strong infusion of coffee. "Give strychnia (gr. 1-40) tr. digitalis (♏ x), and whisky (ʒ, to ii), hypodermatically. Never use emetics or apomorphia hypodermatically in these cases." (In case of subcutaneous injection of the above solution.) For poisoning by *belladonna, digitalis* and *stramonium:* Give emetic of sulphate of zinc, solution of tannin in mucilaginous drinks, strong infusion of coffee, subcutaneous injections of morphia, and alcoholic stimulants with ammonia or strychnia. *Do not give* any vegetable acid before the poison has been expelled from the stomach. For poisoning by *Spanish fly* and *potato fly:* Give mucilaginous drinks, copious draughts of milk, or camphor water. Subsequently, administer an emetic or use stomach-pump. Administer morphia if required.

371. **Narcotic Poisoning.**—For poisoning by *nux vomica*

(strychnia): Give an emetic of sulphate of zinc, or use stomach-pump. Give solution of tannic or gallic acid. Give full doses of opium when required. Give bromide of potassium in large doses. Give chloroform to diminish tetanic spasms, particularly of the glottis. Give stimulants if required. For poisoning by *opium* (morphia): Use stomach-pump, or give an emetic of zinc or mustard water at once. Give infusion of strong coffee, or a solution of either tannic or gallic acid. Give of the tincture of belladonna, hyoscyamus, or stramonium (20 to 60 minims) as the urgency of the case demands. "Caffein, strychnia, and atropia sulph. hypodermatically (1-20 gr. atropia antagonizes 1 gr. morphia)." Keep patient walking, and flagellate the legs with wet cloth to prevent sleep. Apply electricity (faradaic current) to the spine. Induce artificial respiration and give stimulants when required. For poisoning by *veratrum:* Give emetic of sulphate of zinc, or use stomach-pump. Give full doses of tincture of digitalis, or opium, and, *per contra* give stimulants, brandy, whisky, etc., and strychnia when required, hypodermatically.

372. **Miscellaneous.**—For poisoning by *poison ivy:* Apply a saturated solution of hyposulphite of soda; apply a solution (5 per cent) of carbolic acid. For poisoning by *snake bites:* Immediately apply a ligature above the wound, cleanse the wound thoroughly and cauterize with either of the mineral acids; in the absence of mineral acids apply strong carbolic acid. Give internally, either brandy or whisky in large quantities or appreciable doses of aro. spirits of ammonia. For poisoning by *bites of rabid animals:* Immediately ligate (if location of the wound admits of it), and then *suck out* the wound and cauterize at once, with either of the mineral acids (nitric acid is preferable), or with solid nitrate of silver. When sloughing occurs, poultice to keep up suppuration. Belladonna and opium may be given in small doses (internally), for months after. Elecampane (*inula helenium*) in milk, is alleged to have been successfully employed in the treatment of hydrophobia. For poisoning by *bees* and *insects:* Apply spirits of camphor, aqua ammonia, saturated solution of bicarbonate of soda, or a solution (2½ per cent) of carbolic acid. Give internally, small doses of morphia either subcutaneously or by the stomach.

373. In case of poisoning by such agents as depress or de-

stroy nerve force, electricity, stimulants, and the cold douche, are to be resorted to; in such cases, the early use of an opiate, an anodyne, or a sedative is to be avoided.

CHAPTER XII.

Table of Maximum Doses.

374. The infinitesimal dose of the homœopathic school of medicine is proverbial. However, the dose is not essentially an infinitesimal one nor does the law of *Similia* in any instance so define it. In a literal sense, the posology of a drug refers to the dose as the word indicates and not necessarily to any particular pathy.

375. In the following table of maximum doses, taken from the National Dispensatory and compiled from the German Pharmacopœia, the star (*) is used before the pharmacopœial name to designate the fact that the dose of the said drug has been reduced to the United States standard, or that it is quoted from the Belgian Pharmacopœia; the doses in which, being, with few exceptions, invariably smaller than in the standard pharmaceutical publications of the United States.

N. B. The doses given in this table are all intended for adults.	For Single Dose.		For a Day.	
	Grams.	Grains.	Grams.	Grains.
Acidum arseniosum	.005	1/13	.01	1/6
" carbolicum (cryst.)	.05	¾	.15	2½
" *hydrocyanic, diluted	.05	¾	.20	3
Aconitia	.004	1/16	.03	2/5
Aconiti radix	.15	2¼	.6	9¼
Antimonii et potassii tartras	.2	3	1.0	15⅜
Aqua amygdalæ amaræ, and laurocerasi	2.0	30¾	7.0	108
Argenti nitras	.03	2/5	.2	3
*Arsenici iodidum	.025	⅜	.05	¾
Atropia	.001	1/64	.003	1/22
Atropiæ sulphas	.001	1/64	.003	1/22
Auri et sodii chloridum	.06	9/10	.2	3

CONTINUED.

Barii chloridum	.12	1⅞	1.5	23
Belladonnæ folia	.2	3	.6	9¼
" radix	.1	1½	.4	6
Cantharides	.05	¾	.15	2⅓
Codia	.05	¾	.1	1½
* Colocynthis	.25	3⅞	.9	13⅞
Conia	.001	1/64	.003	1/22
Conii herba	.3	4½	2.0	30¾
Creosotum	.05	¾	.2	3
* Cupri acetas	.1	1½	.4	6
" sulphas	.1	1½	.4	6
" " in divided doses as an emetic	1.0	15⅜		
Cupri et ammonii sulphas	.1	1½	.4	6
Digitalis folia	.3	4½	1.0	5⅜
* Extractum aconiti foliorum	.1	1½	.4	6
" " radix	.025	⅜	.1	1½
" belladonnæ	.1	1½	.4	6
" cannabis indicæ	.1	1½	.3	4½
" * colchici aceticum	.2	3	.8	12⅓
" colocynthidis	.06	9/10	.4	6
" conii	.18	2¾	.6	9¼
" digitalis	.2	3	.8	12⅓
" hyoscyami	.2	3	1.0	15⅜
" ignatiæ	.05	¾	.15	2⅓
" lactucæ	.6	9¼	2.5	38¼
" nuxcis vomicæ alc	.05	¾	.15	2⅓
" " " aqueous	.2	3	.6	9¼
" opii	.1	1½	.4	6
" physostigmatis	.02	3/10	.06	9/10
" pulsatillæ	.2	3	1.0	15⅜
" sabinæ	.2	3	1.0	15⅜
" * scillæ alc	.1	1½	5	7½
" stramonii foliorum	.1	1½	.4	6
" * stramonii seminis	.05	¾	.25	3¾
Gambogia	.3	4½	1.0	15⅜
Hellebori verides radix	.3	4½	1.2	18½
* Hydrargyri cyanidum	.02	3/10	.8	1 3/10
" chloridum corrosivum	.03	9/20	.1	1½
" iodidum rubrum	.03	9/20	.1	1½
" " viride	.06	9/10	.4	6
" oxidum rubrum	.03	9/20	.1	1½
" protonitras	.015	2/9	.06	9/10
Hyoscyami folia	.3	4½	1.0	15⅜
Lactucarium	.3	4½	1.2	18½
Liquor potassii arsenitis	.4	6	2.0	30¾
" *arsenici et hydrargyri iodidi	.4	6	2.0	30¾
Morphia, or its salts	.03	9/20	.12	1⅚
Nux vomica	.1	1½	.3	4½
Oleum tiglii	.06	9/10	.3	4½
Opium	.15	2⅓	.5	7¼
Phosphorus	.015	2/9	.06	9/10
Plumbi acetas	.06	9/10	.4	6
* Potassii arsenias	.005	1/13	.025	⅜
" *cyanidum	.003	1/22	.012	4/22
Sabadillæ fructus	.25	3⅘	1.0	15⅜
Santoninum	.1	1½	.5	7½
* Sodii arsenias	.005	1/13	.025	⅜
Stramonii folia	.25	3⅘	1.0	15⅜
" * semen	.20	3	.8	12⅓

CONTINUED.

Strychnia, or its salts	.01	1/6	.03	9/20
* Tinctura aconiti radicis	.22	3⅖	.9	13⅞
" belladonnæ	1.0	15⅜	4 0	61½
" *cantharidis	1.2	18½	3.6	55½
" colchici	2.0	30¾	6.0	92½
" digitalis	2.0	30¾	6.0	92½
" iodinii	.3	4½	1.2	18½
" " *composita	.6	9	2.5	38
" nuxcis vomicæ	.5	7½	1.5	23
" *opii	1.75	27	6.0	92½
" " *acetate	1.35	20¾	4.5	69½
" " *deodorata	1.75	27	6.0	92½
" stramonii	1.2	18½	6.0	92½
" *veratri viridi	.5	7½	2.0	30¾
" toxicodendri folia	.4	6	1.2	18½
Veratria	.005	1/13	.03	9/20
Veratrum album or viride	.3	4½	1.2	18½
Vinum colchici	2.0	30¾	6.0	92½
Zinci chloridum	.015	¼	.1	1½
" lacata	.06	9/10	.3	4½
" sulphas	.06	9/10	.3	4½
" " in divided doses as an emetic	1.2	18½		
" valerianas	.06	9/10	.3	4½

CHAPTER XIII.

List of Reagents.

TEST SOLUTIONS.

376. **Acetate of Lead.**—In *ten parts* of distilled water dissolve *one part* of acetate of lead, and slightly acidulate the solution by adding a few drops of acetic acid.

377. **Albumen.**—In *three parts* of distilled water dissolve *one part* of egg albumen and filter through moist cotton. The cotton should be made moist with clean distilled water. This solution, should be freshly prepared when wanted.

378. **Ammonio-Nitrate of Silver.**—To a solution of nitrate of silver (Paragraph 403) add water of ammonia (in drops) until the precipitate thus formed is nearly all dissolved; then filter.

379. **Ammonio-Sulphate of Copper.**—To a solution of sulphate of copper—Paragraph 412—add water of ammonia (in drops) until the precipitate thus formed is nearly all dissolved; then filter.

380. **Bichromate of Potassium.**—In *ten parts* of distilled water dissolve *one part* of bichromate of potash.

381. **Bitartrate of Sodium.**—In *ten parts* of distilled water dissolve *one part* of bitartrate of soda; dissolve the salt with the aid of heat and filter when cold.

382. **Carbonate of Ammonium.**—In *ten parts* of distilled water dissolve *one part* of carbonate of ammonia.

383. **Carbonate of Sodium.**—In *ten parts* of distilled water dissolve *one part* of carbonate of soda.

384. **Chloride of Ammonium.**—In *ten parts* of distilled water dissolve *one part* of chloride of ammonia.

385. **Chloride of Barium.**—In *ten parts* of distilled water dissolve *one part* of pure chloride of baryta, in crystals.

386. **Chloride of Calcium.**—In *ten parts* of distilled water dissolve *one part* of pure chloride of lime.

387. **Chloride of Gold.**—In *ten parts* distilled water dissolve *one part* of chloride of gold.

388. **Chromate of Potassium.**—In *ten parts* of distilled water dissolve *one part* of chromate of potash.

389. **Ferric Chloride.**—In *ten parts* of distilled water dissolve *one part* of chloride of iron.

390. **Ferrocyanide of Potassium.**—In *ten parts* of distilled water dissolve *one part* of ferrocyanide of potash. Add *ten parts* more of distilled water to *one part* of the solution, and add a few drops of the ferri chloride solution; if no *blue* precipitate is produced the solution of ferrocyanide is uncontaminated by *protoxide of iron.*

391. **Ferrocyanide of Potassium.**—In *ten parts* of distilled water dissolve *one part* of ferrocyanide of potash.

392. **Ferrous Sulphate.**—In *ten parts* of distilled water dissolve *one part* of pure sulphate of iron. Add *ten parts* more of distilled water to *one part* of the solution, and add a few drops of the ferrocyanide of potash solution; this will produce an abundant precipitate, known as Turnbull's blue.

393. **Gelatin.**—In *fifty parts* of distilled water dissolve *one*

part isinglass (ichthyocolla); dissolve on water-bath, and filter through cotton moistened with clean distilled water.

394. **Hydrosulphuric Acid.**—Take ferrous sulphide *one part*, sulphuric acid *one and one-half parts*, and dilute with about *ten times* its weight of distilled water. Introduce the several substances into a bottle, perforate the cork, and connect with a glass tube to a second bottle that contains *fifty parts* of distilled water. The glass tube should but just enter through the cork of the first bottle, while in the second one it should pass through it and downwards nearly to the bottom of the bottle. The hydrosulphuric acid *gas* thus generated in the first, and thus made soluble in the second vessel, will, as will also the solution itself, immediately *blacken* a solution of acetate of lead. The solution should be prepared fresh and possess the characteristic odor of the acid.

395. **Hyposulphite of Sodium.**—In *ten parts* of distilled water dissolve *one part* of hyposulphite of soda, and filter.

396. **Indigo.**—Digest, on water-bath, for one hour indigo (in powder) *one part*, sulphuric acid *twelve parts*, and then pour the solution into *five hundred parts* of distilled water. Leave the mixture to subside, and afterwards decant the clear portion for use.

397. **Iodide of Mercury and Potassium.**—Mix solution of mercury chloride *one hundred parts*, with solution of iodide of potassium *three hundred and sixty-seven parts.*

398. **Iodide of Potassium.**—In *twenty parts* of distilled water dissolve *one part* of iodide of potash.

399. **Iodine.**—In *fifty parts* of distilled water dissolve first *three parts* of iodide of potash, and then *one part* of iodine.

400. **Magnesium.**—In *eight parts* of distilled water dissolve *two parts* of chloride of ammonium and *one part* of sulphate of magnesium. Add *four parts* of water of ammonia, and, in a day or two, filter.

401. **Mercuric Chloride.**—In *twenty parts* of distilled water dissolve *one part* of corrosive sublimate.

402. **Nitrate of Barium.**—In *twenty parts* of distilled water dissolve *one part* of pure nitrate of baryta.

403. **Nitrate of Silver.**—In *twenty parts* of distilled water dissolve *one part* of nitrate of silver, in crystals.

404. **Oxalate of Ammonium.**—In *twenty parts* of distilled water dissolve *one part* of oxalate of ammonia.

405. **Permanganate of Potassium.**—In *one thousand parts* of distilled water dissolve *one part* of permanganate of potash.

406. **Phosphate of Ammonium.**—In *ten parts* of distilled water dissolve *one part* of phosphate of ammonia.

407. **Phosphate of Sodium.**—In *ten parts* of distilled water dissolve *one part* of phosphate of soda.

408. **Picric Acid.**—In *one hundred parts* of distilled water dissolve with the aid of heat, *one part* of picric acid in crystals; let the solution stand for ten or twelve hours and then filter.

409. **Platinic Chloride.**—In *twenty parts* of distilled water dissolve *one part* of pure chloride of platinum.

410. **Potassio-Cupric Tartrate.**—In *five and forty one-hundredths fluidrachms*—20 c. c.—of distilled water dissolve *one hundred and six and ninety-two hundredths grains*—6.93 grams—of selected crystals of sulphate of copper; in *four and sixty-five hundredths fluidounces*—140 c. c.—of solution of soda* dissolve *five hundred and fifty-five and fifty-six hundredths grains*—36 grams—of tartrate of potash. To the former solution gradually add the latter, stirring it at the same time; and, finally add enough more of the *solution of soda* to raise the liquid measure to *six and seventy-five hundredths fluidounces*—200 c. c.

411. **Sulphate of Calcium.**—In *three hundred parts* of distilled water digest *one part* of native crystallized sulphate of lime; agitate repeatedly for several days and then decant the clear liquid.

412. **Sulphate of Copper.**—In *ten parts* of distilled water dissolve *one part* of sulphate of copper, selected crystals.

413. **Sulphate of Potassium.**—In *fifteen parts* of distilled water dissolve *one part* of sulphate of potash.

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*SOLUTION OF SODA—Dissolve:

Carbonate of Soda............*Fifty-six parts.*

Distilled water..............*One hundred and ninety-four parts.*

—*Pharm. U. S.*

414. **Sulphate of Silver.**—In *two hundred aud fifty parts* of distilled water dissolve with the aid of heat, *one part* of sulphate of silver.

415. **Sulphide of Ammonium.**—Take water of ammonia *three parts,* and proceed in the same manner as directed in preparing the solution of hydrosulphuric acid gas. When the water of ammonia is saturated with the gas, and water of ammonia *two parts;* that is two parts more. Test this solution with the solution of sulphate of magnesium, or chloride of calcium; if not rendered turbid the solution is free from *ammonium hydrate* or *carbonate.*

416. **Tannic Acid.**—In *nine parts* of distilled water and *one part* of alcohol, dissolve *one part* of tannic acid. *This solution should not be used when turbid.*

417. **Tartaric Acid.**—In *five parts* of distilled water dissolve *one part* of tartaric acid.

PART II.

Special Pharmacy.*

ABELMOSCHUS ESCULENTUS. (*abel-mos'chus es-cu-len'tus.*)

NAT. ORDER, Malvaceæ.

SYN., A. moschatus, Hibiscus abelmoschus, H. esculentus, H. longifolius.

VULG., Gombo, Musk-okro, Musk leaf plant, Musk seed, Okra.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of freshly dried seeds. Powder the seeds fine, moisten with the alcohol, and allow the powder thus treated to macerate for an hour or two, and pack in a conical percolator and add alcohol, sp. gr. '941, from time to time, until the percolate measures *fourteen parts;* then add *two parts* of water in order to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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* While recognizing the fact that the pharmacist should be more or less familiar with the botanical description of plants and should also know something of the science of chemistry, the author has seen fit to ignore these two special features and to refer the reader to any one of the many text books on these subjects, believing that all instruction herein should be in reference to pharmaceutical preparations.

ABIES CANADENSIS. (*a'bi-es'can-a-den'sis.*)

NAT. ORDER, Coniferæ.
SYN., Pinus canadensis.
VULG., Hemlock spruce, Hemlock tree, Canada pitch.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh buds and young twigs. Bruise the plant thoroughly in a mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the buds and twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution,
All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ABIES NIGRA. (*a'bi-es ni'gra.*)

NAT. ORDER, Coniferæ.
SYN., Pinus nigra.
VULG., Black or double spruce.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. 835, and *four parts* of the fresh bark from the young twigs. Bruise the bark thoroughly in a mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ABSINTHIUM. (*ab-sin'thi-um.*)

NAT. ORDER, Compositæ.

SYN., A. majus, A. officinalis, A. rusticum, A. vulgare, Artemisia absinthium.

VULG., Absinthe, Wormseed, Wormwood.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the fresh young leaves and flowers. Bruise the plant thoroughly in a mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ABROTANUM. (*ab-rot'a-num.*)

NAT. ORDER, Compositæ.

SYN., Artemisia abrotanum.

VULG., Southernwood, Old man.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the fresh young leaves. Bruise the plant thoroughly in a mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACACIA CATECHU. (*a-ka'she-a cat-e-chu.*)

NAT. ORDER, Leguminosæ.

SYN., A. catechuoides, A. chundra, A. sandra, A. sundra, Mimosa catechu, M. catechuoides, M. sundra.

VULG., Catechu gum, Medicinal acacia, Cutch, Gambeer, Terra Japonica.

The Preparations of this gum are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *two parts* of the gum, in coarse powder, and *one part* of clean white sand. Mix. Moisten with the alcohol and pack in a conical glass percolator and add alcohol, sp. gr. '920, from time to time, until the percolate shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent: or, each minim contains the medicinal properties of *one-eighth grain* of the gum.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '920, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '920, *eight parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACALYPHA INDICA. (*a-cal' i-pha in-di'ca.*)

NAT. ORDER, Euphorbaceæ.

SYN., A. canescans, A. ciliata, A. spicata.

VULG., Cupameni, Indian acalypha or nettle.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill,making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

ACANTHUS MOLLIS. (*a-can'thus mol'lis.*)

NAT. ORDER, Acanthaceæ.
SYN., Branca ursina (?).
VULG., Bear's-breech, Smooth bear's-breech.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the plant. Run plant through drug mill, making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM ACETICUM GLACIALE. (*ac'i-dum a-cet'i-cum gla'she-ale.*)

Glacial Acetic Acid.—$HC^2 H^3 O^2$; 60.

This acid is a crystalline solid at or below (15° C.) 59° F.; at a temperature above this it is a colorless liquid. At 32° F. it has the sp. gr. 1'063.

Tests.—Acetic acid (in solution) when treated with hydrosulphuric acid should not yield a precipitate of the *metals;* or with a solution of the oxalate of ammonium, a precipitate of *calcium.* Upon the addition of a solution of chloride of barium no precipitate of sulphate of baryta should be formed, thus showing the presence of *sulphuric acid;* nor chloride of silver, upon the addition of a solution of nitrate of silver, thus showing the presence of *hydrochloric acid;* nor upon the addition of a crystal of sulphate of iron to a mixture of equal parts of acetic acid and sulphuric acid should a brown colored zone be formed thus showing the presence of *nitric acid.* If there is a precipitate thrown down upon the addition of hydrosulphuric acid, to another portion add a few drops of the solution of ferrocyanide of potassa; when, if the metal be *iron,* the liquid will immediately change to a blue color; or, if the metal be *copper*, to a wine or mauve color.

It requires *thirteen fluidrachms*, *twenty-four minims* of the volumetric solution of soda to neutralize *forty-two and six-tenths grains* of glacial acetic acid, 99 per cent.

The Preparations of this acid are the decimal and centesimal solutions and dilutions.

SOLUTIONS.—To *nine parts* of distilled water add *one part* of glacial acetic acid; to *nine parts* more of distilled water add *one part* of the first solution. These two solutions are equivalent, in drug strength, to the *first* and *second decimal* dilutions.

To *ninety parts* of distilled water add *ten parts* of the first solution. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *third decimal* dilution it requires *nine parts* of alcohol, sp gr. '941, to *one part* of the second decimal *solution*.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

The *second centesimal* dilution requires *ninety-nine parts* of alcohol, sp. gr. '941, to *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM BENZOICUM. (*ac'i-dum ben-zo'i-cum.*)

Benzoic Acid.—$HC^7 H^5 O^2$; 122.

Benzoic acid is sublimated from gum benzoin, in cream-white, lustrous, needle-like scales. The acid is of a slight aromatic odor, a warm acid-like taste and is permanent when exposed to atmospheric air. It is soluble in cold water two hundred parts, in boiling water twenty-five parts, in ether three parts, in chloroform seven parts, also, in bisulphide of carbon, benzol, benzin, and the fixed oils. It is readily soluble in alcohol.

Tests.—Benzoic acid should, when heated, sublime *without* residue. It should not impart a *green* or *bluish-green color* to a nonluminous flame when heated upon a loop of platinum wire, the acid being first moistened with cuprum oxide, thus showing the presence of *chloro-benzoic*. It should not possess the odor of bitter almonds; nor, should such an odor be evolved upon rubbing it with permanganate of potassa, moistened with water, thus showing the presence of *cinnamic acid*.

The Preparations of this acid are the decimal and centesimal triturations, the decimal and centesimal solutions and subsequent decimal and centesimal dilutions.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for twenty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SOLUTIONS.—To *nine parts* of alcohol, sp. gr. '835, add *one part* of benzoic acid. This solution is equivalent, in drug strength, to the *first decimal* dilution.

To *ninety-nine parts* of alcohol, sp. gr. '835, add *one part* of benzoic acid. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *second decimal* dilution it requires *nine parts* of alcohol, sp. gr. '835, to *one part* of the first decimal *solution*.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

The *second centesimal* dilution requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM BORICUM. (*ac'i-dum bor'i-cum.*)

Boracic Acid. Boric Acid.—$H^3 BO^3$; 62.

Artificially prepared, boric acid is obtained by decomposing a hot solution of borax with sulphuric acid. It crystallizes in colorless, transparent, six-sided plates. The crystals are odorless, of a cool and slightly bitter taste, unctuous to the touch, and are quite permanent in the atmospheric air.

Boric acid is soluble in about twenty-five parts of water (15° C.) 59° F.; and in a much smaller quantity of boiling water. It is also sparingly soluble in alcohol.

Tests.—A solution of boric acid in alcohol burns with a greenish colored flame. Boric acid (in solution) when treated with hydrosulphuric should not yield a precipitate of the *metals;* or with a solution of the oxalate of ammonium, a precipitate of *calcium.* Upon the addition of a solution of chloride of barium no precipitate of sulphate of baryta should occur, thus showing the presence of *sulphuric acid;* nor chloride of silver, upon the addition of a solution of nitrate of silver, thus showing the presence of *hydrochloric acid.*

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for twenty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM CARBOLICUM. (*ac'i-dum car-bol'i-cum.*)

Carbolic Acid. Phenic Acid.—$C^6 H^5 HO$; 94.

In the distillation of that portion of coal tar known as "dead oil," at a temperature between (180° C.) 356° F., and (190° C.) 374° F., the product is gathered and subsequently treated with a warm concentrated solution of potassa. The resulting crystallized mass is afterwards dissolved in water, the empyreumatic oils separate and are removed, when the solution is further treated with hydrochloric acid; the phenol thus separated is repeatedly agitated with water, and, being further treated with chloride of calcium, is again distilled. Carbolic acid crystallizes in long, colorless, prismatic needles. Upon exposure to the air they sometimes deliquesce;the resulting liquid and remaining crystals both acquiring a pinkish color (*cresylic acid*). Carbolic acid is freely soluble in alcohol and ether, and is also quite soluble in bisulphate of carbon, chloroform, glycerin, and the fixed oils. Its sp. gr. is 1'065. The melting point of the pure anhydrous crystals is 96.8° to 107.6° F.; a continued heat at this temperature and above completely volatilizes the acid.

Tests.—A solution of carbolic acid (1 per cent), treated with a drop or two of the solution of ferric chloride will assume a permanent blue color, thus showing the absence of *creosote.* One part of carbolic acid (containing 5 per cent of water) in one part of glycerin forms a clear mixture which is not rendered turbid upon the addition of three parts of water, thus showing the absence of *cresylic acid.*

The Preparations of this acid are the decimal and centesimal solutions, and the subsequent decimal and centesimal dilutions. Besides these there is a glycerole and an ointment of carbolic acid.

SOLUTIONS.—To *nine parts* of distilled water add *one part* of carbolic acid. This solution is equivalent, in drug strength, to the *first decimal* dilution. To *ninety-nine parts* of distilled water add *one part* of carbolic acid. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal *solution.*

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal *solution.*

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Glycerole.—To *ninety parts* of glycerin add *ten parts* of carbolic acid.

Ointment.—To *seventy-five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of carbolic acid. Or, to *ninety parts* of simple ointment add *ten parts* of carbolic acid.

ACIDUM CHROMICUM. (*ac'i dum chro'mi-cum.*)

Chromic Acid.—CrO^3; 50.2.

This acid is obtained by pouring three measures (parts) of concentrated sulphuric acid, sp. gr. 1'84, into two measures (parts) of a saturated solution of bichromate of potassium. Chromic acid crystallizes in needle-like quadrangular prisms. The crystals are of a deep, crimson-red color; they are very deliquescent, and also are very soluble in water. Chromic acid is deoxidized almost instantly in the presence of arsenious, sulphurous, and hydrosulphuric acids as well as in the presence of deoxidizing agents generally. The acid should be preserved in glass-stoppered vials.

Tests.—A solution of chromic acid, deoxidized with alcohol, when treated with a solution of chloride of barium should not yield a precipitate of sulphate of baryta; thus showing the presence of free *sulphuric acid.* When treated with the solution of tartaric acid, a precipitate of the bitartrate of potassium ought not to occur; thus showing the presence of *bichromate of potassium.*

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM CHRYSOPHANICUM. (*ac'i-dum chrys-o-phan'i-cum.*)

Chrysophanic Acid.—$C^{14} H^{8} O^{4}$; 242.

This acid may be prepared by exhausting rhubarb with cold water and treating the residue, after drying, with benzole. Chrysophanic acid crystallizes out on concentrating the benzolic solution in orange-colored needles, which are both tasteless and odorless. Chrysophanic acid is only slightly soluble in cold water. It is soluble in benzole, the hydrocarbons, in chloroform, and in the fixed and volatile oils.

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM CITRICUM. (*ac'i-dum cit'ri-cum.*)

Citric Acid.—$H^3\ C^6\ H^5\ O^7$, $H^2\ O$ or H^3 Ci Aq; 210.

Citric acid is obtained in large quantities from the juice of lemons. Allowed to ferment for a time, to separate the mucilage and other impurities, the juice is first saturated with chalk; thus forming an insoluble compound it is thoroughly washed, and, subsequently, it is decomposed by sulphuric acid, diluted with water, after which the solution is filtered and then evaporated until a thin film forms on its surface, when it is set aside that the acid may crystallize.

Citric acid crystallizes in the form of rhomboidal prisms. It is permanent in dry air, and it has a sp. gr. of 1'6. It dissolves in three-fourths part of cold and in one-half part of boiling water.

Tests.—Citric acid (in solution) when treated with hydrosulphuric acid should not yield a precipitate of the *metals;* or, with chloride of barium, sulphate of baryta, thus showing the presence of *sulphuric acid.* On ignition, the crystals having left some ash, it should not turn blue upon treating it with a drop or two of water of ammonia, thus showing the presence of *copper.* Dissolving the acid in two parts of water, and treating it with acetate of potassium dissolved in two parts of water, the acid solution should remain clear upon the addition of an equal volume of alcohol, thus showing the absence of *oxalic* and *tartaric acids.*

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM FORMICICUM. (*ac'i-dum for-mic'i-cum.*)

Formic Acid.—$H\ C\ H\ O^2$; 46.

This acid occurs naturally in the animal kingdom, particularly in the bodies of ants (*formica rufa*). It is obtained by distilling oxalic acid with glycerin, and by the oxidation of wood spirit in the presence of platinum black, or by the action of sulphuretted hydrogen on dry formate of lead. Its sp. gr. is 1'235. It crystallizes below 32° F. and is soluble in water and mixes with it in all proportions.

The Preparations of this acid are the decimal and centesimal solutions, and the subsequent decimal and centesimal dilutions.

SOLUTIONS.—To *nine parts* of distilled water add *one part* of formic acid; to *nine parts* more of distilled water add *one part* of the first decimal *solution*. These two solutions are equivalent, in drug strength, to the *first* and *second decimal* dilutions.

To *ninety-nine parts* of distilled water add *one part* of formic acid. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *third decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the second decimal *solution*.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM GALLICUM. (*ac'i-dum gal'li-cum.*)

Gallic Acid.—$HO,\ C^{14}\ H^5\ O^{9}\ HO$; 188.

This acid is obtained from nutgalls—excrescences upon the leaves of the *quercus infestoria* produced by the puncture of an insect—by treating them with ether. A more simple method, however, is to prepare a thin paste of powdered nutgalls with water, exposing the mixture to warm atmospheric air in a shallow porcelain vessel for a few weeks, taking care from time to time to replace the water lost by evaporation. The mass is then submitted to expression; the liquor being rejected, the solid portion or residue is then boiled for a short time in distilled water, and being first filtered through animal charcoal, while hot, is then set aside that the acid may crystallize. Gallic acid crystallizes in long, silky needles, which are quite or nearly colorless, when pure, and which are permanent in the air. The acid is soluble in one hundred parts of cold water, three parts of boiling water and in four and five-tenths parts of alcohol.

Tests.—In contra-distinction to tannic acid, a solution of gallic acid will not precipitate albumen, gelatin, gelatinized starch, chloride of ammonium and tartrate of antimony and potassium (tartar emetic) from their respective solutions.

The Preparations of this acid are the decimal and centesimal triturations. Besides these, there is an ointment of gallic acid.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *seventy-five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of gallic acid.

Or, to *ninety parts* of simple ointment add *ten parts* of gallic acid. Rub the acid with a few drops of glycerin and then thoroughly incorporate it with the ointment. This ointment is to be made without the aid of heat and without the use of an iron spatula.

ACIDUM HYDROBROMICUM DILUTUM. (*ac'i-dum hydro-brom'i-cum di-lu-tum.*)

Diluted Hydrobromic Acid.

This acid is a 10 per cent aqueous solution of absolute hydrobromic acid (HBr; 80.8). Its sp. gr. is 1'077. It is a clear, colorless liquid, strongly acid and is completely volatilized by heat.

Tests.—Upon the addition of a solution of chloride of barium no precipitate of the sulphate of baryta should occur; thus showing the absence of *sulphuric acid.* A solution of nitrate of silver will cause a white precipitate to fall which is insoluble in nitric acid and but sparingly so in stronger water of ammonia.

The Preparations of this acid are the decimal and centesimal solutions and the subsequent decimal and centesimal dilutions.

SOLUTIONS.—To *nine parts* of distilled water add *one part* of diluted hydrobromic acid. This solution is equivalent, in drug strength, to the *second decimal* dilution.

To *ninety parts* of distilled water add *ten parts* of diluted hydrobromic acid. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *third decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the second decimal *solution.*

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal *solution.*

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM HYDROCHLORICUM DILUTUM. (*ac'i-dum hydro-chlo'ri-cum di-lu'tum.*)

Diluted Hydrochloric Acid. Diluted Muriatic Acid.

This is a 10 per cent aqueous solution of absolute hydrochloric acid (—HCl; 36.4). Its sp. gr. is 1'049. It is a colorless liquid; of an intense acid taste and of a strong acid reaction. Hydrochloric acid is completely volatilized by heat.

Tests.—A 10 per cent solution of hydrochloric acid, when treated with a solution of sulphide of ammonium should not change its color, that is become black; thus showing the presence of some one of the metals, particularly *lead.* Or, when treated with a solution of ferrocyanide of potassium it ought not to assume a mauve color thus showing the presence of *copper;* or blue color, thus showing the presence of *iron.* Upon the addition of a solution of chloride of barium no precipitate of the sulphate of baryta should occur, thus showing the presence of *sulphuric acid;* or a small piece of pure granulated zinc being added, the gas so evolved should not blacken freshly saturated nitrate of silver paper thus showing the presence of *sulphurous acid.*

To detect the presence of *nitric acid*, add a small piece of gold leaf to the diluted hydrochloric acid and treat it with a few drops of the solution of proto-chloride of tin, which will, in case nitric acid is present, cause the solution to assume a purple colored tint.

The Preparations of this acid are the decimal and centesimal solutions and their subsequent decimal and centesimal dilutions.

SOLUTIONS.—To *nine parts* of distilled water add *one part* of diluted hydrochloric acid. This solution is equivalent, in drug strength, to the *second decimal* dilution.

To *ninety parts* of distilled water add *ten parts* of diluted hydrochloric acid. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *third decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the second decimal *solution*.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr, '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM HYDROCYANICUM DILUTUM. (*ac'i-dum hydro-cy-an'i-cum di-lu'tum.*)

Diluted Hydrocyanic Acid. Diluted Prussic Acid.

This is a 2 per cent solution of absolute hydrocyanic acid (HC^2N; 27). It is prepared by decomposing ferrocyanide of potassium by diluted sulphuric acid at a boiling heat. The specific gravity is not to be relied on as being indicative of strength. It must be of such strength (2 per cent) that 12.7 grains of nitrate of silver dissolved in distilled water will accurately saturate 100 grains of diluted acid producing a white precipitate of cyanide of silver, which when washed and properly dried (at 212° F.) shall weigh exactly ten grains, and is wholly soluble in boiling nitric acid. Diluted hydrocyanic acid should be kept in well-stoppered bottles; and, although well coated over with some opaque substance they should nevertheless be kept away from the light. Hydrocyanic acid is colorless, and possesses the characteristic odor and taste of peach pits and bitter almonds.

Tests.—Upon the addition of a solution of chloride of barium no precipitate of sulphate of baryta should occur, thus showing the presence of *sulphuric acid;* or being treated with a solution of ferric chloride no blue precipitate should occur, thus showing the presence of *ferrocyanide of potassium.*

The Preparations of this acid are the first centesimal solution and its subsequent centesimal dilutions.

Solutions.—A solution composed of *equal parts* of distilled water and diluted hydrocyanic acid (2 per cent solution) is equivalent, in drug strength, to the *first centesimal* dilution.

Dilutions.—To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM HYDROFLUORICUM. (*ac'i-dum hydro-fluor'i-cum.*)

Hydrofluoric Acid.—HF.; 20.

This acid is obtained by heating in a retort of platinum or lead, fluoride of calcium with concentrated sulphuric acid. Hydrofluoric acid is exceedingly volatile, and is a colorless liquid. It unites with water with great violence, and even in a diluted state it readily attacks glass. When brought into contact with the skin it causes deep and malignant ulcers, and should therefore be manipulated with care. This acid should be preserved in gutta-percha flasks.

Tests.—In order to determine if a suspected liquid is hydrofluoric acid or not, place a drop or two on a slip of glass; when, after a few minutes, if the liquid be a solution of hydrofluoric acid, the glass will be found to have lost its polish at the point of contact.

The Preparations of this acid are the centesimal solutions and the subsequent centesimal dilutions.

Solutions.—To prepare the *first centesimal* solution, it requires to *ninety-nine parts* of distilled water *one part* of hydrofluoric acid; for the *second centesimal* solution, to *ninety-nine parts* of distilled water *one part* of the first centesimal *solution;* for the *third centesimal* solution, to *ninety-nine parts* of distilled water *one part* of the second centesimal *solution.*

Dilutions.—To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the third centesimal *solution.*

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM LACTICUM. (*ac'i-dum lac'ti-cum.*)

Lactic Acid.—HO, $C^6 H^5 O^5$; 90.

This acid is a colorless syrupy liquid, odorless and of a strong acid taste, and is freely miscible with alcohol, ether, and water. Its sp. gr. is 1'212. The preparation of lactic acid consists in the spontaneous fermentation of sugar, in solution, mixed with carbonate of lime (chalk), and in the presence of casein. During the process lactate of lime is formed, which subsequently is decomposed by the cautious use of oxalic acid, the lactic acid being left free and in solution.

Tests.—Lactic acid (in solution) when treated with hydrosulphuric acid should not yield a precipitate of the *metals*, or with a solution of the oxalate of ammonium, a precipitate of *calcium*. Upon the addition of a solution of chloride of barium no precipitate of sulphate of baryta should occur, thus showing the presence of *sulphuric acid;* nor chloride of silver, upon the addition of a solution of nitrate of silver, thus showing the presence of *hydrochloric acid*. If there is a precipitate thrown down upon the addition of hydrosulphuric acid, and it be not black,—sulphide of *lead*,—to another portion add a few drops of the solution of ferrocyanide of potassium; when, if the metal be *iron* the liquid will immediately change to a blue color, or, if the metal be *copper* to a wine or mauve color.

It requires *nine and five-tenths fluidrachms* of the volumetric solution of soda to neutralize *sixty-nine and four-tenths* grains of lactic acid, sp. gr. 1'212.

The Preparations of this acid are the aqueous (50 per cent) solution, the centesimal solution, and its subsequent centesimal dilutions.

SOLUTIONS.—To prepare the aqueous (50 per cent) solution, it requires to *thirty-two and five-tenths parts* of distilled water *sixty-seven and five-tenths parts* of lactic acid, sp. gr. 1'212. To prepare the *first centesimal* solution it requires to *ninety-eight parts* of distilled water *two parts* of the aqueous (50 per cent) solution.

DILUTIONS.—To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal *solution.*

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM MOLYBDÆNICUM. (*ac'i-dum mol-ib-de'ni-cum.*)

Molybdic Acid.—MoO^3.

This acid is a white crystalline powder, slightly soluble in water, readily soluble in the presence of alkalies and fusible at red heat. It is obtained by roasting at red heat, in an open vessel, the native bisulphide of molybdenum. The impure acid is dissolved in ammonia, the solution is then filtered and afterwards evaporated to dryness, when the salt is re-dissolved and being purified by crystallization the crystals are decomposed and the ammonia is then expelled by heat.

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM NITRICUM DILUTUM. (*ac i-dum ni-tri'cum di-lu'tum.*)

Diluted Nitric Acid.

This acid is a 10 per cent solution of absolute nitric acid. Its sp. gr. is 1'059.

Tests.—This acid, when diluted with an equal volume of distilled water and treated with gelatinized starch, should not take on a blue color thus indicating the presence of *iodine,* or when further treated with a solution of hydrosulphuric acid, the acid being added without agitation, it should not make manifest the presence of *iodic acid* by giving a blue colored zone. Upon the addition of a solution of chloride of barium no precipitate of sulphate of baryta should occur thus showing the presence of *sulphuric acid,* nor chloride of silver, upon the addition of a solution of nitrate of silver, thus showing the presence of either *chlorine* or *hydrochloric acid;* nor should a precipitate be formed with an excess of water of ammonia, thus indicating the presence of *iron* or *lead.* If the liquid should take on a blue color after the addition of ammonia, thus indicating the presence of copper, verify with a solution of ferrocyanide of potassium the reaction of which is made plain by the liquid changing to a mauve, or wine color. The presence of lead may be detected by treating the acid with a solution of sulphide of ammonium; *lead* being present the precipitate is blackened.

It requires *nine and three-tenths fluidrachms* of the volumetric solution of soda to neutralize *forty-eight and six-tenths* grains of nitric acid, sp. gr. 1'420.

The Preparations of this acid are the decimal and centesimal solutions, the subsequent decimal and centesimal dilutions, and the decimal and centesimal triturations.

SOLUTIONS.—The diluted nitric acid—U. S. Pharmacopœia—is equivalent, in drug strength, to the *first decimal* solution. To *nine parts* of distilled water add *one part* of diluted nitric acid, sp. gr. 1'059; to *nine parts* more of distilled water add *one part* of the second decimal solution. These two solutions are equivalent, in drug strength, to the *second* and *third decimal* dilutions.

To *ninety parts* of distilled water add *ten parts* of the diluted nitric acid, sp. gr. 1'059; to *ninety-nine parts* more of distilled water add *one part* of the first centesimal solution. These two solutions are equivalent, in drug strength, to the *first* and *second centesimal* dilutions.

DILUTIONS.—To prepare the *fourth decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the third decimal *solution*.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *third centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the second centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.*—To prepare the *third decimal* trituration it requires to *ten parts* of milk sugar *one part* of the second decimal *solution*. Deposit the solution in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *third decimal* trituration.

To prepare the *second centesimal* trituration it requires to *one hundred parts* of milk sugar *one part* of the first centesimal *solution*. Deposit the solution in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the solution, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second centesimal* trituration.

ACIDUM NITROHYDROCHLORICUM DILUTUM. (*ac'i-dum nitro-hydro-chlo'ri-cum di-lu'tum.*)

Diluted Nitrohydrochloric Acid. Diluted Nitromuriatic Acid.

This acid is a 25 per cent solution of nitric and hydrochloric acids combined. It contains about 10 per cent of the first named acid and about 15 per cent of the latter. When pure and recently prepared it is colorless, or very faintly yellow, possessing a slight odor of chlorine, a decidedly acid taste, and is strongly acid in its reaction.

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* This form of preparation is applicable to either one of the mineral acids.

The Preparations of this acid are the decimal and centesimal solutions and their subsequent decimal and centesimal dilutions.

SOLUTIONS.—To *six parts* of distilled water add *four parts* of diluted nitrohydrochloric acid; to *nine parts* more of distilled water add *one part* of the first solution; again, to *nine parts* more of distilled water add *one part* of the second solution. These three solutions are equivalent, in drug strength, to the *first*, *second*, and *third decimal* dilutions.

To *ninety six parts* of distilled water add *four parts* of diluted nitrohydrochloric acid; to *ninety-nine parts* more of distilled water add *one part* of the first solution. These two solutions are equivalent, in drug strength, to the *first* and *second centesimal* dilutions.

DILUTIONS.—To prepare the *fourth decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the third decimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *third centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the second centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM OXALICUM. (*ac'i-dum ox-al'i-cum.*)

Oxalic Acid.—$C^4\,O^6\,2\,HO$; 63.

This acid is obtained in large quantities by the long continued action of nitric acid, either on sugar, starch, or dextrin. One part of sugar is dissolved in a mixture of five parts of nitric acid, sp. gr. 1'420, and ten parts of water. This acidified solution of sugar is gently heated in a retort until copious red fumes are disengaged and oxidation is complete. Heat is again applied and the liquid concentrated, until the liquid deposits crystals on cooling. The crystals are then drained and re-dissolved in a limited quantity of hot water when it is again set aside that final crystallization may occur. Oxalic acid crystallizes in long, slender, four or six-sided-oblique rhombic prisms. The crystals are soluble in eight parts of water, 60° F., and in about their own weight of hot water.

Tests.—On adding concentrated sulphuric acid to a 10 per cent solution of oxalic acid and boiling it, the *organic impurities* will be charred or blackened; to another portion of the solution, if treated with a solution of nitrate of barium, the presence of *sulphuric acid* will be indicated by the deposition of a copious white precipitate—sulphate of baryta—which is insoluble in diluted nitric acid.

The Preparations of this acid are the decimal and centesimal solutions, their subsequent decimal and centesimal dilutions, and the decimal and centesimal triturations.

SOLUTIONS.—To *nine parts* of distilled water add *one part* of oxalic acid. To *ninety-nine parts* of distilled water add *one part* of oxalic acid. These two solutions are equivalent, respectively, in drug strength, to the *first decimal* and the *first centesimal* dilutions.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal *solution*.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM PHOSPHORICUM DILUTUM. (*ac'i-dum phos-phor'i-cum di-lu'tum.*)

Diluted Phosphoric Acid.

This acid is a 10 per cent solution of glacial phosphoric acid —$3\,HO, PO^5$; 98—in distilled water. Its sp. gr. is 1'057.

Tests.—A 10 per cent solution of phosphoric acid should when treated with a solution of nitrate of silver remain colorless; if when thus treated it blackens, the coloration is indicative of the presence of *organic matter*. Upon the addition of a solution of chloride of barium no precipitate of sulphate of baryta should occur, thus showing the presence of *sulphuric acid;* nor when treated with the solution of nitrate of silver no precipitate of chloride of silver should occur, thus showing the presence of *hydrochloric acid*. The presence of *phosphorous acid* may be detected by treating the solution with the mercuric chloride solution; if present, the liquid will immediately assume an opaque whitish appearance. Again, saturated with hydrosulphuric acid gas, it should not deposit a lemon-colored precipitate; thus showing the absence of *arsenious acid*.

The Preparations of this acid are the decimal and centesimal solutions, and their subsequent decimal and centesimal dilutions.

SOLUTIONS.—The diluted phosphoric acid—U. S. Pharmacopœia—is equivalent, in drug strength, to the *first decimal* dilution.

To *ninety parts* of distilled water add *ten parts* of the diluted phosphoric acid, sp. gr. 1'057. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the diluted phosphoric acid, sp. gr. 1'057.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACIDUM PICRICUM. (*ac'i-dum pic'ri-cum.*)

Picric Acid.—$HC^6H^2(NO^2)^3O$; 229.

Carbazotic, nitrophenisic, or picric acid is obtained by the action of boiling nitric acid, sp. gr. 1'420, on silk, wool, indigo, salicin, cumarin and bodies in general, belonging to the phenyl series. When obtained by the action of nitric or carbolic acid, the first crystallized product is washed in cold water and then re-dissolved in boiling water from which it afterwards crystallizes out in beautiful bright yellow scales. It dissolves in eighty-six parts of water at (15 C.) 59° F., and is freely soluble in alcohol and ether.

The Preparations of this acid are the decimal and centesimal dilutions and decimal and centesimal triturations.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of acid; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of acid; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM SALICYLICUM. (*ac'i-dum sal-i-cyl'i-cum.*)

Salicylic Acid.—$H^2 C^7 H^4 O^3$; 138.

This acid is obtained from the oil of wintergreen mixed with a strong solution of hydrate of potassa, which subsequently forms salicylate of potassium. The latter salt is decomposed by hydrochloric acid; the salicylic acid separates in crystals, and is purified by re-dissolving in hot water. A more recent method of preparation consists in passing dry carbonic acid gas through carbolated sodium while being heated at a temperature varying from 212° to 460° F. The salicylic acid crystallizes in small, white, acicular crystals which possess an acrid acidulous taste, and sometimes, too, they possess an aromatic odor. The acid is soluble in about 450 parts of water at 59° F., and in 2.7 parts of alcohol, sp. gr. '835.

Tests.—A 10 per cent alcoholic solution of salicylic acid, slightly acidulated with nitric acid, when treated with a solution of nitrate of silver should not become turbid; if so, it thus shows the presence of *hydrochloric acid.* A saturated aqueous solution of salicylic acid should not assume a reddish tint, thus showing the presence of *carbolic acid,* when added to thirty or forty drops of hydrochloric acid in which there has been dissolved a crystal or two of chlorate of potassium, the whole being subsequently and carefully treated with water of ammonia.

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACIDUM SUCCINICUM. (*ac'i-dum suc-cin'i-cum.*)

Succinic Acid.—$H^2 C^4 H^4 O^4$; 118.

This acid is from a resinous substance (*amber*) sometimes occurring in association with coal and lignite, which is thought to have been deposited as an exudation from a species of pinus. On being heated amber yields acetic and succinic acids, a volatile oil (oil of amber), and a pitchy substance of the nature of asphalt. Artificially it is obtainable by the oxidation of butyric, stearic, or margaric acids. Under the influence of a ferment tartaric and malic acids, both, as well as their salts, are converted into succinic acid. When prepared by dry distillation, from amber, the acetic acid and oil of amber are both carried over into the receiver, and the succinic acid, which during the process is evolved in the form of a white vapor, is deposited as a sublimate in the neck of the retort.

This acid is sometimes found also, as a constituent of the fluids of hydatid cysts and hydroceles. Succinic acid crystallizes in colorless prisms and is soluble in five or six parts of water at 59° F., and in two and a half parts of boiling water.

Tests.—A concentrated alcoholic solution of succinic acid when treated with sulphuric acid, and heated, should not evolve the odor of acetic ether; thus showing the presence of *acetic acid.*

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the ***first decimal*** trituration it requires to ***nine parts*** of milk sugar ***one part*** of the acid. Deposit the acid in a porcelain mortar, and add ***three parts*** of milk sugar and steadily triturate for ten minutes; add ***three parts*** more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The ***second decimal*** trituration requires to ***nine parts*** of milk sugar ***one part*** of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add ***three parts*** of milk sugar and steadily triturate for fifteen minutes; add ***three parts*** more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to ***nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***second decimal*** trituration.

The ***first centesimal*** trituration requires ***ninety-nine parts*** of milk sugar to ***one part*** of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

ACIDUM SULPHURICUM DILUTUM. (*ac'i-dum sul-phu'ri-cum di-lu'tum.*)

Diluted Sulphuric Acid. Diluted Oil of Vitriol.

This is a 10 per cent aqueous solution of absolute sulphuric acid(—$H^2 SO^4$; 98). Its sp. gr. is 1·067. Absolute sulphuric acid is strongly caustic and corrosive, is of an oily appearance, and is colorless when pure, and when heated on platinum foil it evaporates without residue. It is miscible with water and alcohol in all proportions, and with the former with evolution of heat.

Tests.—A 10 per cent aqueous solution of sulphuric acid when treated with hydrosulphuric acid should not yield a black or dark-colored precipitate, thus showing the presence of *arsenic, copper, iron* or *lead.* If a black or dark-colored precipitate does occur on the addition of hydrosulphuric acid, treat another portion with a solution of ferrocyanide of potassium, when, if *copper* be present, the precipitate will assume a wine or mauve color; or, if *iron* be present, a blue color. To still another portion add a crystal or two of iodide of potassium; when, if *lead* be present, the crystal will assume a beautiful yellow color. To detect the presence of *arsenic* pass sulphuretted hydrogen through another portion; if this metal, or rather its salts, be present a yellow precipitate of the arsenious sulphide will fall.

To an alcoholic dilution, in a test tube, carefully add a solution of ferrous sulphate; if a reddish-brown zone appears, at the line of contact of the two liquids, it is indicative of the presence of *nitric acid.*

The Preparations of this acid are the decimal and centesimal solutions and their subsequent decimal and centesimal dilutions.

SOLUTIONS.—To *nine parts* of distilled water add *one part* of diluted sulphuric acid. This solution is equivalent, in drug strength, to the *second decimal* dilution.

To *ninety parts* of distilled water add *ten parts* of diluted sulphuric acid. This solution is equivalent, in drug strength, to the *first centesimal* dilution.

DILUTIONS.—To prepare the *third decimal* dilution it requires to *nine parts* of alcohol, sp. gr. ·941, *one part* of the second decimal *solution*.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. ·941, *one part* of the first centesimal *solution*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

ACIDUM TANNICUM. (*ac'i-dum tan'ni-cum.*)

Tannic Acid. Tannin.—$C^{14} H^{10} O^{9}$; 322.

"Expose powdered galls to a damp atmosphere for two or three days, and afterwards add sufficient ether to form a soft paste. Let this stand in a well-closed vessel for twenty-four hours, then having quickly enveloped it in a linen cloth, submit it to a strong pressure so as to separate the liquid portion, which contains the bulk of the tannin in solution. Reduce the pressed cake to a powder, mix it with sufficient ether, to which one-sixteenth of its bulk of water has been added, to form a soft paste, and press this as before. Mix the expressed liquids and expose the mixture to spontaneous evaporation until, by the aid subsequently of a little heat, it has acquired the consistence of a soft extract; then place it on earthen plates or dishes, and dry it in a hot air chamber at a temperature not exceeding 212° F."

Tannic acid, prepared as above, is of a pale, greenish-yellow color, is strongly astringent to the taste, of an acid reaction and is readily soluble in boiling water and alcohol. It is soluble in about six parts of water and in six-tenths part of alcohol, 59° F. It is soluble to the same extent in glycerin as in cold water; it is but slightly soluble in absolute alcohol, or in ether, chloroform, benzine and benzole.

Tests.—An aqueous solution of tannic acid added to an aqueous solution of gelatin causes a yellowish-white precipitate to fall. A valuable test for the purpose of determining the presence of tannic acid in solution is the addition of a neutral solution of ferric chloride which causes a bluish-black precipitate of *tannate of iron.* The ferrous salts in solution give a slower reaction, but the liquid gradually darkens and after a few hours becomes permanently black. An aqueous solution of tannic acid causes precipitates when added to a solution of albumen, to a solution of any of the alkaloids, or,to a solution of tartrate of antimony and potassium. In this,it differs from a solution of gallic acid.

The Preparations of this acid are the decimal and centesimal triturations. Besides this, there is a glycerole and an ointment of tannic acid.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Glycerole.—To *ninety parts* of pure glycerin add *ten parts* of tannic acid.

Ointment.—To *seventy five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of tannic acid.

Or, to *ninety parts* of simple ointment add *ten parts* of tannic acid. Rub the acid with a few drops of glycerin and then incorporate it with the ointment. This ointment is to be made without the aid of heat and without the use of an iron spatula.

ACIDUM TARTARICUM. (*ac'i-dum tar-tar'i-cum.*)

Tartaric Acid.—$H^2 C^4 H^4 O^6$; 150.

This acid exists free and in combination with the alkaline bases in many of the fruits and plants. It is also obtained by boiling a mixture of cream of tartar and chalk until effervescence ceases, and then adding chloride of calcium. The tartrate of calcium thus formed is thoroughly washed and treated with sulphuric acid; and, after boiling again for a short time the resulting sulphate of calcium is removed by filtration and the filtrate evaporated and set aside to await the process of crystallization. Tartaric acid crystallizes in large, transparent, mono-clinic prisms. The reaction of the crystals, in solution, is decidedly acid; they are soluble in seven-tenths parts of water and in two and a half parts of alcohol, sp. gr. ·835, at 59° F.

Tests.—On ignition the remaining ash when treated with water of ammonia should not assume a blue color, or with a solution of ferrocyanide of potassium a wine or mauve color, thus showing the presence of *copper;* nor when treated with the solution of ferrocyanide of potassium a blue color, thus showing the presence of *iron;* nor with a solution of iodide of potassium a yellow color, thus showing the presence of *lead.* Treated with a solution of chloride of barium a concentrated aqueous solution of tartaric acid should not yield a precipitate of sulphate of baryta, thus showing the presence of *sulphuric acid;* nor the same acid solution when neutralized by ammonia and treated with a solution of oxalate of ammonium should not yield a precipitate of *oxalate of calcium.*

It requires *thirteen and five-tenths fluidounces* of the volumetric solution of soda to neutralize *fifty-seven and eight-tenths grains* of pure tartaric acid.

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the ***first decimal*** trituration it requires to ***nine parts*** of milk sugar ***one part*** of the acid. Deposit the acid in a porcelain mortar, and add ***three parts*** of milk sugar and steadily triturate for ten minutes; add ***three parts*** more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The ***second decimal*** trituration requires to ***nine parts*** of milk sugar ***one part*** of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add ***three parts*** of milk sugar and steadily triturate for fifteen minutes; add ***three parts*** more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to ***nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***second decimal*** trituration.

The ***first centesimal*** trituration requires ***ninety-nine parts*** of milk sugar to ***one part*** of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

ACIDUM URICUM. (*ac'i-dum u'ri-cum.*)

Uric Acid. Lithic Acid.—$H^{2} C^{5} H^{2} N^{4} O^{3}$.

This acid is a natural product of the animal organism existing in combination with sodium, potassium, calcium, and ammonium, in the form of urates. A quantity of human urine acidulated with hydrochloric acid, and then set aside, will be found after several hours to contain a greater or less number of minute crystals of uric acid, which, under the microscope, are readily defined as minute rhombic plates.

Tests.—Dissolved in a small quantity of nitric acid and subsequently evaporated, nearly to dryness, and then treated with water of ammonia the solution immediately changes color becoming a deep red. The urates behave in the same manner. This change of color is due to the oxidation of the uric acid and the subsequent chemical effect of the ammonia on alloxan—one of the products of the oxidation—producing a coloring substance termed *murexid*.

The Preparations of this acid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ACONITINUM. (*ac-o-ni-ti'num.*)

Aconitia. Aconitina. Aconitine.—$C^{54} H^{40} NO^{2}$; 645.

This officinal alkaloid is obtained from the leaves and root of the aconitum napellus. These portions of the plant are treated with alcohol, sp. gr. ·835, and being left to macerate in a close vessel for a few hours the alcohol is distilled off, or nearly so, when the residue is mixed with water, filtered, and then treated with strong ammonia water to precipitate the alkaloid. The impure aconitia so obtained is digested in ether,—the oil and resin being soluble therein—the ether is then recovered by distillation, and, the dry residue is again dissolved in water acidulated with sulphuric acid and finally is once again precipitated by ammonia.

Aconitia thus prepared is not a crystalline substance but a white amorphous powder. It possesses a sharp, acrid, bitter taste and is soluble in one hundred and fifty parts of cold and fifty parts of boiling water. It is also readily soluble in alcohol, ether, chloroform, glycerin and oleic acid. A crystalline pseudoaconitia is obtained from the *aconitum ferox*. This substance and another alkaloidal salt of the aconitum napellus—*aconella*, are both alleged to be adulterants of aconitia.

Tests.—A saturated aqueous solution of aconitia, in a conical glass or test tube, if set aside, at rest, may be examined microscopically for aconella. The crystals of aconella are acicular shape, and are presented in form of white tufts. A solution containing a mere trace of aconitia will assume a permanent violet tint on being treated with an excess of strong phosphoric acid.

The Preparations of this alkaloid are the decimal and centesimal triturations. Besides these, there is an oleate of aconitia.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the alkaloid and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

Oleate.—To ***forty-nine parts*** of oleic acid add ***one part*** of aconitia.

ACONITUM ANTHORA. (*ac-o-ni'tum an-thor'a.*)

NAT. ORDER, Ranunculaceæ.

VULG., Wholesome wolf's bane, Yellow helmet flower.

(See Aconitum napellus)

ACONITUM CAMMARUM. (*ac-o-ni'tum cam-mar'um.*)

NAT. ORDER, Ranunculaceæ.

SYN., A. intermedium, A. neomontanum, A. stoerckianum.

VULG., Rostrate wolf's bane.

(See Aconitum napellus.)

ACONITUM FEROX. (*ac-o-ni'tum fer'ox.*)

NAT. ORDER, Ranunculaceæ.

SYN., A. virosum.

VULG., Bish, Indian aconite, Nepal aconite, Sringibish.

(See Aconitum napellus.)

ACONITUM LYCOCTONUM. (*ac-o-ni'tum ly-coc'to-num.*)

NAT. ORDER, Ranunculaceæ.

SYN., A. telyphonum, Lycoctonum.

VULG., Bisch, or Bikh, Great yellow wolf's bane, Wolf's bane.

(See Aconitum napellus.)

ACONITUM NAPELLUS. (*ac-o-ni'tum na-pel'lus.*)

NAT. ORDER, Ranunculaceæ.

SYN., A. angustifolium, A. caule-simplex, A. cœruleum, A. dissectum, A. multifidum, A. stoerckianum, A. tauricum, A. vulgare, Napellum cœruleum.

VULG., Aconite, Friar's cap, Helmet flower, Monk's hood, Wolf's bane.

This plant is a perennial and is indigenous to Europe; particularly to the German Empire and the Swiss Republic. It also is plentiful in the forests of France.

The *fresh leaves*, when rubbed, have a sickly stupefying odor. They impart to the tongue a bitterish, burning, acrid taste. This acritude is significant; for if the leaves be long kept, and they become dark in color and dry, it will be found that their acrimony is lost and that their medicinal properties are thus greatly impaired.

It is alleged that all of the above species possess similar virtues, and that one is frequently substituted for the other; be this as it may it is a recognized fact, notwithstanding, that the best medicinal plants are those possessing the greatest acrimony.

The following species, the aconitum napellus, a. lycoctonum, and a. ferox all yield *aconitia* most abundantly.

The Preparations of this plant are the tincture and its subsequent decimal and centesimal dilutions, and the decimal and centesimal tincturations.*

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the *recently* dried leaves. The leaves should be of a green color, and not of a dark brown color, and perfectly free from mould. Run plant through drug mill making a moderately coarse powder, transfer to a suitable vessel and add the alcohol, first moistening the drug with hot water (112° F), and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

THE TINCTURATIONS.—To prepare the *first decimal* tincturation it requires to *ten parts* of milk sugar *two and one-fourth parts* of the tincture. Deposit the tincture in a porcelain mortar, and add the milk sugar and triturate in a moderately warm atmosphere until the milk sugar is dry.

The *second decimal* tincturation requires to *nine parts* of milk sugar *one part* of the first decimal tincturation. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for fifteen minutes.

All subsequent tincturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding tincturation; adding the vehicle and proceeding as directed for the *second decimal* tincturation.

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*The *tincturation* is a preparation introduced here as a substitute for the trituration of the solid extract. The derivation of the term was suggested to the author by Dr. E. M. Hale, in 1867, from preparations then prepared for him under the caption of "tincture-triturations;" the name being afterward employed by him, in his "New Remedies," to designate triturations that were prepared from the tinctures.

Although the tincturation represents the medicinal properties of only one-tenth part of the plant, yet for the purpose for which it is intended, namely, that the drug may also be conveniently used in powder form, it is sufficiently strong, and, furthermore, is both an actual and acurate representative of the crude substance, which fact is more than can be truthfully said of many of the solid extracts.

The *first centesimal* tincturation requires to *one hundred parts* of milk sugar *two and one-fourth parts* of the tincture. Deposit the tincture in a porcelain mortar, and add the milk sugar and steadily triturate in a moderately warm atmosphere until the milk sugar is dry.

The *second centesimal* tincturation requires to *ninety-nine parts* of milk sugar *one part* of the first centesimal tincturation. Deposit the one part (the first centesimal) in a mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, and steadily triturate for twenty minutes; add another portion and again triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent tincturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding tincturation; adding the vehicle and proceeding as directed for the *second centesimal* tincturation.

ACONITUM RADIX. (*ac-o-ni'tum ra'dix.*)

Aconite Root.

Although the roots of the two species aconitum cammarum and aconitum ferox both possess medicinal properties, the root referred to here is the root of the aconitum napellus. It is a tapering spindle-shaped root but a few inches in length, of a dark brownish color when old, and of a yellowish color when young. The latter becomes the parent root annually, and the former decays. The young root when dried becomes darker; it is more of a brownish-yellow color and is shriveled or shrunken. In drying, it does not lose its acrimony.

The Preparations of this root are the tincture and its decimal and centesimal dilutions Besides these, there is a lotion of aconite.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *eight parts* of aconite root. Take the recently dried root and run it through drug mill, reduce to a moderately fine powder,* transfer to a suitable vessel and add *six parts* of alcohol; first *moistening* the drug with hot water (112° F.) and macerate twenty-four hours, keeping the vessel constantly covered; pack the drug firmly in a cylindrical percolator and add the balance of the alcohol, from time to time, until the percolate shall equal *sixteen parts.*

The *drug power* of this tincture is 50 per cent; or, each minim of the tincture contains the medicinal properties of *one half grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '835, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '835, *two parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

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* In powdering aconite, or otherwise manipulating aconite, in powder, care should be taken to protect the mouth and nasal passages. (See Paragraph 71, Part I.)

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Lotion.—To *seven parts* of distilled water add *two parts* of glycerin and *one part* of tincture of aconite root.

ACORUS. (*ac'o-rus.*)

NAT. ORDER, Araceæ.
SYN., A. calamus, Calamus aromaticus.
VULG., Calamus, Cinnamon sedge, Flag root, Sweet flag, Sweet rush.

This plant is indigenous to the United States, Europe, and Western Asia. The root is much wrinkled, of a yellowish-brown color, externally, whitish within, and has a warm, pungent, bitter taste, and a fragrant aromatic odor.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture it requires to *sixteen parts* of alcohol, sp. gr. '941, *six parts* of the recently dried flag-root. Run the root through drug mill making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ACTÆA SPICATA. (*ac-tæ'a spi-ca'ta.*)

NAT. ORDER, Ranunculaceæ.
SYN., A. americana, A. brachypetala, A. longpipes, A. rubra.
VULG., Baneberry, Cohosh, Herb Christopher.

This plant is a perennial and is indigenous to the mountainous regions of Europe. The root is both the official and officinal part, and externally it bears a resemblance to the root of the helleborus nigra, from which it may be designated (Dr. Carson, *American Journal of Pharmacy*) by the "diffuse, jointed, stem-like character of the caudex, the straggling, separated and horizontal arrangement of the fibres, and their dense, woody structure, and reddish-brown color, contrasted with the thickness, double-headed form, and sponginess of the caudex, the close-set, perpendicular position of its fibres, and the wrinkled appearance, soft texture and grayish-brown color" of the latter named root. It is alleged, by Bently, that an infusion of actæa spicata when treated with a few drops of the solution of ferric chloride yields a copious precipitate, and that the color of the infusion immediately changes to a deep blue or black; effects which are not produced by treating an infusion of helleborus nigra in the same manner.

The Preparations of this plant are the tincture of the root and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ADAMAS. (*ad'a-mas.*)

Diamond.

The diamond dust (?) of the lapidary triturated with coarsely powdered milk sugar.

The Preparations of the diamond are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires to *ninety-nine parts* of coarse milk sugar *one part* of diamond dust. Deposit the diamond dust in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the diamond dust ,and steadily triturate, *with pressure*, for sixty minutes; then add another portion and triturate for sixty minutes; and finally, the last portion and triturate for sixty minutes.

The *second centesimal* trituration requires to *ninety-nine parts* of milk sugar *one part* of the first centesimal trituration. Deposit the one part (the first centesimal) in the mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first centesimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second centesimal* trituration.

ADANSONIA DIGITATA. (*ad-an-so'nia dig-i-ta'ta.*)

NAT. ORDER, Bombaceæ.

VULG., Baobab, Monkey bread, Sour gourd.

This tree, the leaves and bark of which are medicinal, and are used extensively in the miasmatic diseases of the Indies, is indigenous to Africa.

The Preparations of the baobab are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered leaves and bark of the twigs. Run both through the drug mill making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the leaves and bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ADIANTUM PEDATUM. (*ad-i-an'tum pe-da'tum.*)

NAT. ORDER, Filices.

SYN., A. aureum, A. capillus veneris.

VULG., True maiden hair.

This delicate perennial indigene is found growing on moist loam in deep shade throughout the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture it requires to *sixteen parts* of alcohol. sp. gr. '941, *four parts* of the fresh plant. Bruise thoroughly in a mortar, transfer to a suitable vessel and add the alcohol, and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ÆGLE MARMELOS. (*e'gle mar'me-los.*)

NAT. ORDER, Aurantiaceæ.

SYN., Cratæva marmelos, C. religiosa.

VULG., Bael or Bhel fruit, Bengal quince, Bili, Bilva, Mahura, Thorny Bengal quince.

This tree is indigenous to Hindoostan and India.

The Preparations of the Bengal quince are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture it requires to *sixteen parts* of alcohol, sp. gr. '941, *four parts* of the bark of the root and stem, and the leaves. Run the bark and leaves through drug mill, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the drug.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ÆGOPODIUM PODAGRARIA. (*e-go-pod'i-um pod'a-gra-ria.*)

NAT. ORDER, Umbelliferæ.

VULG., Ash weed, Bishop weed, Gout weed.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run through drug mill, making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the drug.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts*

alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ÆSCULIN. (*es'cu-lin.*)

Alkaloid (*Æsculus hippocastanum*).—$C^{30} H^{34} O^{19}$.

This is the fluorescent glucoside of the horse chestnut, also found in the tissues of the yellow jasmine (Attfield), and is the gelseminic acid of Wormley. Æsculin is deposited in the form of white acicular crystals from a saturated tincture of æsculus hippocastanum. It is soluble in boiling water, but is only slightly so in cold.

The Preparations of this alkaloid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the alkaloid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ÆSCULUS GLABRA. (*es'cu-lus gla'bra.*)

NAT. ORDER, Sapindaceæ.

SYN., Æ. carnea, Æ. echinata, Æ. ohioensis, Æ. pallida, Æ. rubicunda, Æ. watsoniana, Pavia glabra, P. pallida, P. watsoniana.

VULG., Fetid or Ohio Buckeye, Buckeye tree.

The Preparations of this drug are the tincture, and its decimal and centesimal dilutions and the decimal and centesimal triturations.

The Tincture.—To prepare this tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fruit and young bark. Crush the fruit, break up the bark and run through drug mill making a moderately coarse powder, transfer to a suitable vessel and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the drug.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered fruit (whole nut). Deposit the drug in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the drug. Deposit the drug in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ÆSCULUS HIPPOCASTANUM. (*es'cu-lus hip-po-cas'ta-num.*)

NAT. ORDER, Sapindaceæ.
SYN., Hippocastanum vulgare.
VULG., Horse chestnut.

This tree is indigenous to Asia. During the sixteenth century it is thought to have been introduced into Europe, and since then it has been conveyed into this country.

The Preparations of this drug are the tincture, its decimal and centesimal dilutions, and the decimal and centesimal triturations. Besides these, there is an ointment of æsculus hippocastanum.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fruit and young bark. Crush the fruit, break up the bark and run through drug mill making a moderately fine powder, transfer to a suitable vessel and moisten with hot water (112° F.) and macerate for an hour or two, then firmly pack in a cylindrical percolator and pour on alcohol, sp. gr. '941, from time to time until the percolate measures *fourteen parts*; add sufficient quantity of water to force remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the drug.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered fruit (whole nut). Deposit the drug in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes, add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the drug. Deposit the drug in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *seventy-five parts* of lard add *fifteen parts* of yellow wax add *ten parts* of the powdered fruit of the æsculus hippocastanum. Moisten the drug thoroughly with water (not too wet), transfer to a suitable vessel and add the lard and wax, place over a gentle fire and constantly stir the mixture until the moisture is driven off and the fat ceases to sputter. Strain through flannel and stir until cold.

ÆTHUSA CYNAPIUM. *(e-thu'sa cy-na'pi-um.)*

NAT. ORDER, Umbelliferæ.

SYN., Apium cicutarium, Cicuta minor, Cicutaria apii-folia, Cicutaria fatua, Cicutaria tenuifolia, Coriandrum cynapium, Cynapium, Petroselinus similis, Petroselinum vitium.

VULG., Dog parsley, Dog poison, Fool's parsley, Garden hemlock, Lesser hemlock.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run through drug mill making a coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AGARICUS BULBOSUS. *(a-gar'i-cus bul-bo'sus.)*

NAT. ORDER, Fungi.

SYN., Telamonia bulbosus.

VULG., Bulbous agaric.

AGARICUS CACUMENATUS. *(a-gar'i-cus cac-u-men-a'tus.)*

NAT. ORDER, Fungi.

AGARICUS CAMPANULATOS. *(a-gar'i-cus cam-pan'u-la-tus.)*

NAT. ORDER, Fungi.

SYN., A. ovalis.

AGARICUS CAMPESTRIS. *(a-gar'i-cus cam-pes'tris.)*

NAT. ORDER, Fungi.

SYN., Psalliota campestris.

VULG., Common mushroom.

AGARICUS CITRINUS. *(a-gar'i-cus ci'tri-nus.)*

NAT. ORDER, Fungi.

SYN., A. citrinellus.

AGARICUS EMETICUS. (*a-gar'i-cus e-met'i-cus.*)
NAT. ORDER, Fungi.
SYN., Russula emetica.

AGARICUS GLUTINOSOS. (*a-gar'i-cus glu-ti-no'sus.*)
NAT. ORDER, Fungi.

AGARICUS MUSCARIUS. (*a-gar'i-cus mus'ca-ri-us.*)
NAT. ORDER, Fungi.
SYN., A. fulvus, A. imperialis, A. maculatus, A. plumbæus, A. puella, A. pustulatus, A. verrucosus, Amanita citrinus, Amanita muscarius.
VULG., Bug or fly agaric.

AGARICUS PANTHERINUS. (*a-gar'i-cus pan-ther-i'nus.*)
NAT. ORDER, Fungi.
SYN., Amanita pantherina.
VULG., Mottled agaric, Spotted amanita.

AGARICUS PHALLOIDES. (*a-gar'i-cus phal-lo-i'des.*)
NAT. ORDER, Fungi.
SYN., Amanita bulbosa? Amanita phalloides.

AGARICUS PIPERITIDIS. (*a-gar'i-cus pi-per-i-ti'dis.*)
NAT. ORDER, Fungi.
SYN., Galarhæus piperatus.
VULG., Peppery agaric.

AGARICUS PROCERUS. (*a-gar'i-cus pro-ce'rus.*)
NAT. ORDER, Fungi.
SYN., Lepiota procera.
VULG., Gigantic agaric, Parasol mushroom, Tall mushroom.

AGARICUS SEMIGLOBATUS. (*a-gar'i-cus sem-i'glo-ba'tus.*)
NAT. ORDER, Fungi.
SYN., Psalliota semiglobota.
VULG., Half-rounded mushroom.

Of the thirteen species of the mushroom family herein specified, the *agaricus muscarius* is the one best known to pharmacy.

The Preparations of this fungus are the tincture, its decimal and centesimal dilutions and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. ·941, *two parts* of glycerin and *four parts* of the recently gathered and carefully dried drug. Reduce the drug to a coarse powder, transfer to a suitable vessel and add the glycerin, macerate for twenty-four hours and then add the alcohol and macerate for fourteen days; express and filter, and add alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the drug.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of the coarse milk sugar *one part* of the recently gathered and carefully dried drug. Deposit the drug, (powdered) in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the recently gathered and carefully dried drug. Deposit the drug, (powdered) in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AGAVE AMERICANA. (*a-ga've a-mer-i-ca'na.*)

NAT. ORDER, Bromeliaceæ.

VULG., American aloe, Century plant, Maguey.

"An evergreen succulent plant, indigenous in Florida, Mexico, and other parts of tropical America, and largely cultivated, chiefly for hedges, in south of Europe, especially Spain. This and other species of agave bear a considerable resemblance, in appearance, to the plants of the genus aloe, with which they are sometimes confounded. From the root and leaves of the American agave, when cut, a saccharine juice flows out, which may be converted by evaporation into syrup and even sugar, and by fermentation into a vinous liquor. According to M. Lenoble, this juice when fresh has an herbaceous somewhat nauseous odor and acrid taste, and reddens litmus paper."—*U. S. Disp.*

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the fresh root and leaves. Bruise the plant to a pulp, transfer to a suitable vessel, determine the specific gravity of the liquid portion and add alcohol, sp. gr. '835, until the menstruum thus prepared has the sp. gr. '941. Macerate for fourteen days, and add sufficient alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AGNUS CASTUS. (*ag-nus' cas'tus.*)

NAT. ORDER, Verbenaceæ.

SYN., Vitex agnus castus, V. verticillata.

VULG., Chaste tree.

This shrub is a native of Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves and berries. Run through drug mill making a coarse powder, transfer to a suitable vessel, add alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the leaves and berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AGROSTEMMA GITHAGO. (*ag-ros-tem'ma gi-tha'go.*)

NAT. ORDER, Carophyllaceæ.
SYN., Lychnis githago.
VULG., Corn cockle.

This plant is an annual, a common weed, and is indigenous to Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the ripe, freshly-dried seeds. Run through drug mill making a moderately fine powder, transfer to a suitable vessel, moisten with hot water (112° F.) and firmly pack in a cylindrical percolator. Add the alcohol from time to time until the percolate measures *fourteen parts;* then add *two parts* of water in order to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AILANTHUS GLANDULOSUS. (*ail-an'thus gland-u-lo'us.*)

NAT. ORDER, Simarubeæ.
SYN., A. procerus, Rhus cacodendron, R. chinense, R. hypsilodendron.
VULG., Chinese sumach, Tree of Heaven.

This tree is a native of China. Prior to any knowledge of its being a therapeutic agent it is alleged to have been used as a nutritive for the silk worm, *Bombyx cinthia.* The parts of the tree employed in medicine, are the bark of the roots and the young shoots and the freshly-dried leaves and flowers.

The Preparations of this drug are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark from the root and young shoots. Run through drug mill, reducing to a moderately fine powder, transfer to a suitable vessel and moisten with hot water (112° F.), macerate for an hour or two, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AJUGA REPTANS. (*a'jug-a rep'tans.*)

NAT. ORDER, Labiatæ.
VULG., Common bugle.

This plant is a perennial, and is indigenous to Europe.

The Preparations of this herb are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Powder coarsely, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* ot each succeeding dilution.

ALETRIN. (*al'e-trin.*)

This resinoid is from the root of the aletris farinosa. It is prepared by the spontaneous evaporation of the spirit, or the distillation of it, from a saturated alcoholic tincture;the residue being afterwards treated with water.

The Preparations of this resinoid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the resinoid. Deposit the resinoid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the resinoid. Deposit the resinoid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resinoid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ALETRIS FARINOSA. (*al'e-tris far-i-no'sa.*)

NAT. ORDER, Hæmodoraceæ.

VULG., Ague-grass, Ague-root, Aloe-root, Bettie grass, Blazing star, Colic-root, Crow corn, Devil's bit, False unicorn root,? Mealy star wort, Star grass, Star root, Unicorn root.

This root is indigenous to North America. It is short, possessing an irregular, wrinkled, dark-colored appearance externally, somewhat lighter within, and is frequently mistakened for the false unicorn—*helonias dioica.*

The Preparations of this root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried root. Run through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and moisten with hot water (112° F.), firmly pack in a cylindrical percolator and add alcohol from to time until the percolate measures fourteen parts; add sufficient water to force downward the remaining menstruum that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ALISMA PLANTAGO. (*a-lis'ma plan-ta'go.*)

NAT. ORDER, Alismaceæ.
SYN., A. parviflora, A. trivialis.
VULG., Greater water plantain, Mad dog weed (?).

This is a perennial herb found growing in stagnant water both in this country and in Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Reduce to a coarse powder, transfer to a suitable vessel, moisten with hot water (112° F.), add the alcohol and macerate seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ALLIUM CEPA. (*al'li-um ce'pa.*)

NAT. ORDER, Liliaceæ.
SYN., Cepa.
VULG., Onion.

ALLIUM PORRUM. (*al'li-um por'rum.*)

NAT. ORDER, Liliaceæ.
VULG., Leek.

ALLIUM SATIVUM. (*al'li-um sa-ti'vum.*)

NAT. ORDER, Liliaceæ.
VULG., Garlic.

These biennial bulbous plants each possess medicinal properties in the form of a heavy, yellowish, volatile, acrimonious oil.*

The Preparations of the allium are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of recently dried garlic. Disintegrate the dry bulbs, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; strain through muslin and filter.

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* Essential oil of garlic—*sulphide of allyl;*—(C^{3} H^{5} ^{2}S).—*Attfield.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried bulb.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ALLOXAN. (*al-lox'an.*)

Formula:—$C^4 H^2 N^2 O^4$.

Alloxan crystallizes in dense, transparent, and almost colorless rhombo-octahedral prisms. The crystals are freely soluble in water, the solution is acid in reaction and is readily decomposed by the alkalies.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of alloxan. Deposit the alloxan in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of alloxan. Deposit the alloxan in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the alloxan, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ALNUS GLUTINOSA. (*al'nus glu-tin-o'sa.*)

NAT. ORDER, Betulaceæ.

VULG., Common alder, European alder.

ALNUS SERRULATA. (*al'nus sur-ra-la'ta.*)

NAT. ORDER, Betulaceæ.

SYN., A. rubra.

VULG., Common, smooth or tag alder, Notch leaved alder.

The first of these two species of alder is a native of Europe, and is found on low land in moist places growing to a considerable height. The second, is a shrub indigenous to this country, which is found upon the river bottoms and in swamps.

The Preparations of the alnus serrulata are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the twigs. Run through drug mill making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ALOE SOCOTRINA.* (*al'oe soc-o-tri'na.*)

NAT. ORDER, Liliaceæ.

SYN., A. gummi, A. lucida, A. officinalis, A. rubescens, A. spicata, A. vera.

VULG., Hepatic, Mocha, Moka or Socotrine aloes, Am. aloes, Bitter aloes.

"This is the inspissated juice of the leaves of Aloe socotrina† (LAMARCK)."—*U. S. Disp.*

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*ALOE PURIFICATA. U. S.—"Take of Socotrine aloes *twenty-four ounces;* stronger alcohol *four fluidounces.* Heat the aloes, by means of a water-bath, until it is completely melted. Then add the alcohol, and, having stirred the mixture thoroughly, strain it through a fine sieve, which has just been dipped into boiling water. Evaporate the strained mixture by means of a water-bath, constantly stirring, until a thread of the liquid becomes brittle on cooling. Lastly, break the product when cold into pieces of a convenient size, and keep it in a well-stoppered bottle."—*U. S. Disp.*

†The active principle of the aloe is a crystalline substance termed *aloin.* The crystals are needle shaped, found arranged in stellated groups, and are procurable from the juice of the leaves only when it is left to spontaneous evaporation; an attempt to artificially evaporate the juice prevents crystallization.

The Preparations of this gum resin are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *nine parts* of alcohol, sp. gr. '941, and *one part* of aloes. Powder the gum resin coarsely, transfer to a suitable vessel and add the alcohol and macerate seven days; filter, and add sufficient alcohol that the tincture shall equal *ten parts.*

The *drug power* of this tincture is 10 per cent; or, each minim contains the medicinal properties of *one-tenth grain* of the gum resin.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of tincture; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '941, *ten parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the gum resin. Deposit the gum resin, (powdered) in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the gum resin. Deposit the gum resin, (powdered) in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion thirty-three parts, to the gum resin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ALPINIA GALANGA. (*al-pin'i-a ga-lan'ga.*)

NAT. ORDER, Zingiberaceæ.

VULG., Loose flowered alpinia, Galangal root.

"According to Morin, galangal contains a volatile oil, an acrid resin, extractive, gum, bassorin, and lignin. A. Vogel, Jun., found also starch and fixed oil (Pharm. Cent. Blatt, 1844.) R. Brandes discovered a peculiar crystallizable substance called *Kempferid* ANNAL. der Pharm.) The active principles are the volatile oil and acrid resin."—*U. S. Disp.*

The Preparations of this root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run through the drug mill making a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ALSTONIA CONSTRICTA. (*al-sto'ni-a con-stric'ta.*)

NAT. ORDER, Apocynaceæ.

VULG., Bitter bark, Australian fever bark.

F. von Müller states that this tall shrub or tree is a native of Queensland, and that it is also found in New South Wales.

"F. v. Müller and A. Rummel obtained from this bark a proximate principle supposed by them to be an alkaloid, which they have called *alstonine* (See WHITTSTIEN'S *Organic Constituents of Plants*, etc., translated by F. Müller, Melbourne, 1878), which differs from the active principle of the Dita bark, chiefly by its behavior towards concentrated acids, and its fluorescence, which is not recorded of the latter. * * * * Recently, however, the bark has been again analyzed by Oberlin and Schlagdenhauffen, who announced the discovery of two alkaloids, one crystalline and the other amorphous. The bark was first extracted in a displacement apparatus with warm ether, as long as the latter became colored. The amount of apparently crystalline (orange) substance taken up by this amounted to only 1.038 per cent. The bark was then exhausted with boiling alcohol, which took up 24.74 per cent more, and it had then lost all its bitterness. Next it was boiled with water which took up 1.375 per cent of saline, and a small quantity of organic matter. The alcoholic extract was not examined. After evaporating the ethereal solution, the residue was treated with very dilute hydrochloric acid to remove fat. The solution, being filtered through charcoal, gave a nearly colorless filtrate which had a decided blue fluorescence. After having ascertained the presence of an alkaloid various methods were tried to separate it. This was only accomplished after repeated solutions in ether, re-dissolving in hydrochloric acid, and precipitating by ammonia, when the final ethereal solution of the precipitate, inclosed in a perfectly closed test-tube, yielded a crystallization of the alkaloid, which the discoverers proposed to call alstonine."—*New Remedies.*

ALSTONIA SCHOLARIS. (*al-sto'ni-a schol'a-ris.*)

NAT. ORDER, Apocynaceæ.
SYN., Echites scholaris.
VULG., Devil tree, Pali-mara, Satween.

This tree is indigenous to the "Indian Peninsula from the lower Himalayas to Ceylon and Burmah; it is also found in the Philippine Islands, Java, Timor, Eastern Australia, and tropical Africa. * * * * The adjective *scholaris* is given to it from the circumstance that its soft white wood is commonly used in the East for making thin writing-boards, which are used by native pupils in schools."—*New Remedies.*

The Preparations of the cortex of these two species of alstonia are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried bark. Run through drug mill making a moderately coarse powder, transfer to a suitable vessel, add alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ALTHÆA OFFICINALIS. (*al-thæ'a of-fic-i-na'lis.*)

NAT. ORDER, Malvaceæ.
VULG., Marsh mallow.

This herbaceous plant, a perennial, is indigenous to Europe and is extensively cultivated there, especially in Germany, for its demulcent properties. The marsh mallow, although somewhat naturalized in this country, is analogous to other species of the malvaceæ. The *malva sylvestris* or common mallow is alleged to be frequently substituted for the althæa officinalis.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '981, and *six parts* of the recently dried root. Run through drug mill making a course powder, transfer to a suitable vessel, add the alcohol and macerate seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '981, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '981, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '981, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '981, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ALUMEN. (*al-u'men.*)

SYN., A. crudum, A. potassic sulphate, Potassio-aluminic sulphate.
VULG., Alum.

Formula, $Al^2 3 SO^4, K^2 SO^4, 24 H^2 O$; 474.

This is a double salt, or a combination of sulphate of alumen with sulphate of potassa.

Being extensively used in the arts, alum is now commonly prepared from an ammoniacal product or the refuse liquor of gas works. This alum commercially, or the double salt sulphate of alumen and sulphate of ammonia is known as *ammonia-alum.*

Tests.—The ammonia-alum may be distinguished from potassa-alum by triturating it with an equal quantity of carbonate of potassa, and treating the mixture with a few drops of water; if the alum is in combination with ammonia the decomposition thus occurring will be accompanied by an *odor of ammonia.* A solution of alum treated with a solution of ferrocyanide of potassium should not cause the liquid to become blue, or greenish blue thus showing the presence of *iron.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alum. Deposit the alum in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alum. Deposit the alum in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the alum, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ALUMEN USTUM. (?) (*al-u'men us'tum.*)

SYN., A. exsiccatum.

VULG., Burnt alum, Dried alum.

Alumen exsiccatum, or dried alum, is simply the potassa-alum deprived of its water of crystallization (47 or 48 per cent).

The Preparations of the dried alum are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the dried alum. Deposit the alum in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the dried alum. Deposit the alum in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the alum, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ALUMINA. (*a-lu′mi-na.*)

Syn., Aluminium Oxydatum.

VULG., Pure Clay, Argilla pura, Oxide of aluminium.

Formula. Al^2O^3; 43.4.

This is the washed precipitated gelatinous hydrate of aluminum formed by the decomposition of sulphate of alum when treated with an alkaline carbonate.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of alumina. Deposit the alumina in a porcelain mortar and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alumina. Deposit the alumina in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the alumina and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ALUMINUM CHLORIDUM. (*a-lu′mi-num chlo′ri-dum.*)

SYN., Aluminum sesquichloridum.

VULG., Chloride, or sesquichloride of Aluminum.

Formula. Al^2Cl^6; 240.4.

This is an exceedingly deliquescent, yellowish, crystalline substance. It is prepared by mixing the dried alumina with lampblack and submitting the two substances to a process of calcination and subsequently decomposing the alumina in the presence of chlorine gas.

The Preparations of this chloride are the decimal (?) and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine*

parts of milk sugar ***one part*** of the chloride. **Deposit the chloride in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.**

The ***second decimal*** trituration requires to ***nine parts*** of milk sugar ***one part*** of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add ***three parts*** of milk sugar and steadily triturate for fifteen minutes; add ***three parts*** more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to ***nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***second decimal*** trituration.

The ***first centesimal*** trituration requires ***ninety-nine parts*** of milk sugar to ***one part*** of the chloride. Deposit the chloride in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the chloride and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

AMARANTHUS HYPOCHONDRIACUS. (*am-a-ran'thus hyp-o-chon-dri'a-cus.*)

NAT. ORDER, Amaranthaceæ.

VULG., Amaranth, Pile wort, Princes Feather, Lovely Bleeding, Red cockscomb.

This annual is supposed to be of tropical nativity. It is frequently found growing wild in the Middle States, and is extensively cultivated in the North for its showy flowers.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Powder the leaves coarsely, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried leaves.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***six parts*** alcohol, sp. gr. '941, *four parts* of tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** of alcohol, sp. gr. '941, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AMBRAGRISEA. (*am-bra-gri' sea.*)

SYN., Ambarum, A. ambrosiacea, A. cinerea, A. maritima, A. nigra, A. vera, Ambrosiaca.

VULG., Ambergris.

This substance is supposed to be a morbid secretion from the intestines of the whale (*physeter macrocephalus*). "It consists chiefly of a peculiar fatty matter analogous to cholesterin, and denominated by Pelletier and Caventon *ambrein.* This may be obtained by treating ambragris with heated alcohol, filtering the solution, and allowing it to stand."—*U. S. Disp.*

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of ambragris. Deposit the ambragris in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of ambragris. Deposit the ambragris in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the ambragris and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMBROSIA ARTEMISIAFOLIA. (*am-bro' zhe-a ar-te-mish' e-fo-lia.*)

NAT. ORDER, Asteraceæ.

VULG., Roman wormwood, Rag weed, Hog weed.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried herb. Powder the herb, transfer to a suitable vessel and add alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried herb.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts*

alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AMBROSIA TRIFIDA. (*am-bro' zhe-a trif' i-da.*)

NAT. ORDER, Asteraceæ.

VULG., Tall ambrosia, Horse weed, Bitter weed, Great rag weed, Horse cane, Rich weed, Wild hemp.

(See Ambrosia artemisiæfolia.)

AMMONIACUM GUMMI. (*am-mo-ni' a-cum gum' mi.*)

From Dorema ammoniacum.

NAT. ORDER, Umbelliferæ.

VULG., Gum ammoniac.

This is the concentrated, or rather concreted, milky juice or gum resin from a plant in the Persian provinces known by the name *Dorema ammoniacum.*

The Preparations of this gum resin are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *twelve parts* of alcohol, sp. gr. '941, and *four parts* of the gum. Powder the gum resin coarsely, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the gum.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AMMONIUM ACETICUM. (*am-mo' ni-um a-cet' i-cum.*)

SYN., Liq. ammoniæ acetatis.

VULG., Spirit of mindererus.

"Take of Strong Solution of Ammonia* *three fluidounces and a half* or *a sufficiency;* Acetic Acid *ten fluidounces* or *a sufficiency.* Mix gradually, and, if the product is not neutral to test-paper, make it so by the addition of the proper quantity of either liquid."(Br. Pharm.)—*U. S. Disp.*

The maximum dose of this solution of acetate of ammonia is *one fluidrachm.* It should be given largely diluted with sweetened water.

AMMONIUM BENZOICUM. (*am-mo'ni-um ben-zo'i-cum.*)

SYN., Ammonii benzoas, Ammonic benzoate.
Benzoate of ammonia.—$NH^4 C^7 H^5 O^2$, 139.

This balsamic, bitter, saline substance crystallizes from a solution of benzoic acid in water of ammonia, in thin, white, rhombic plates. It is soluble in both water and alcohol.

Tests.—An aqueous solution of benzoate of ammonia when treated with a few drops of either of the mineral acids will produce a crystalline precipitate, which is benzoic acid. The solution when heated in a test tube in the presence of carbonate of potassa, will evolve vapor of ammonia.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of benzoate of ammonia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of benzoate of ammonia. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

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*The strong solution of ammonia of the British Pharmacopœia has the sp. gr. of '891, and contains about 32.5 per cent of ammonia. The acetic acid employed here is an undiluted solution having the sp. gr. of 1'044. However, notwithstanding these differences in the strength of the two solutions, the quantities named in the British formula above given, will not greatly vary if the stronger water of ammonia, sp. gr. '900 (U. S.), containing 26 per cent of the gas, and a solution of acetic acid, sp. gr. 1'041 (U S.), be employed.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM BROMIDUM. (*am-mo'ni-um bro-mi'dum.*)

SYN., Ammonii bromidum, Ammonic bromide, Bromide of ammonia.— $NH^4 Br$; 97.8.

These colorless, transparent, four-sided crystals are produced by treating bromide of iron with carbonate of ammonia, or by treating an aqueous solution of the bromide with a solution of hydrosulphate of ammonia.

Tests.—This salt may be determined by carefully treating its solution with a few drops of chlorine water which will impart to the solution a decided yellow or yellowish-red color. To another portion of the solution add a few grains of carbonate of potassium, in a test-tube, and heat; this will evolve vapors of *ammonia*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of bromide of ammonia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the bromide of ammonia. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM CARBONICUM. (*am-mo'ni-um car-bon'i-cum.*)

SYN., Ammonic carbonate. Sesqui-carbonate of ammonia.
VULG., Sal volatile.
Formula.—$Am^2 CO^3$; 66

This salt is a sublimate formed by heating a mixture of sal ammoniac and chalk. It is usually made (commercial salt) in retorts of iron and should be purified by re-distillation or re-sublimation. The fresh, white, translucent mass breaks with sharp fracture and quickly parting with a portion of its carbonic acid on exposure to the air, is reduced to a bicarbonate, first taking on an opaque appearance and finally depositing in the form of a white amorphous powder.

Carbonate of ammonia is also indirectly prepared from gas-liquor and bone-spirit.

Tests.—An aqueous solution of carbonate of ammonia when acidulated with nitric acid should not evolve any empyreumatic odor, nor, when treated with a solution of chloride of barium should not produce any turbidity, thus showing the presence of free *sulphuric acid*, or a *sulphate;* nor when treated with a solution of ferrocyanide of potassium the solution should not assume a blue or greenish-blue color, thus showing the presence of *iron*.

The Preparations of this salt are very unstaple, and should be freshly prepared *when used;* they are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of carbonate of ammonia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of carbonate of ammonia. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM CAUSTICUM. (*am-mo'ni-um caus'ti-cum.*)

SYN., Ammonic hydrate, Liquor ammoniæ fortior, Aqua ammonia.
VULG., Hartshorn, Spirits of ammonia.

This is the *aqua ammoniæ* of the U. S. Pharmacopœia. It contains 10 per cent, by weight, of the gas (same per cent as the alcoholic solution or spirits of ammonia, U. S.), and has the sp. gr. '959.

Tests.—The solution when acidulated with sulphuric acid should not evolve any empyreumatic odor, nor when treated (non-acidulated) with lime water it should not show any turbidity, or cloudiness, thus showing traces of *carbonic acid.*

The solution when acidulated with nitric acid should neither yield any precipitate or become turbid when treated with a solution of chloride of barium, thus showing the presence of a sulphate, or *sulphuric acid*; nor when treated with a solution of nitrate of silver, thus showing the presence of *chlorine* or *hydrochloric acid.*

The Preparations of aqua ammonia are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '941, *one part* of aqua ammonia, sp. gr. '959; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '941, *ten parts* of aqua ammonia, sp. gr. '959; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the second centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AMMONIUM CHLORIDUM. (*am-mo'ni-um chlo'ri-dum.*)

SYN., Ammonii chloridum, Ammonium chloratum, Ammonium muriaticum.

VULG., Chloride of ammonia, Hydrochlorate of ammonia, Muriate of ammonia, Sal ammoniac.

Formula.—$NH^4 Cl$; 53.4.

Separated from its aqueous solution this salt crystallizes in minute octahedra. But as met with in commerce, prepared from *gas liquor,* through the union of the sulphate of ammonium with chlorine (from chloride of lime), by sublimation, it is of a fibrous structure. *Granulated* sal ammoniac* is prepared by making a saturated solution of the salt, in boiling water, and stirring it until cold. The water is then drained off and the salt is left to dry.

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* PURIFIED CHLORIDE OF AMMONIUM.—*U. S. Pharm.* "Take of chloride of ammonium, in small pieces, *twenty ounces;* water of ammonia, *five fluidrachms;* water, *two pints.* Dissolve the chloride of ammonium in the water, in a porcelain dish, with the aid of heat, add the water of ammonia, and continue the heat for a short time; filter the solution while hot, and evaporate to dryness

Tests.—An aqueous solution of chloride of ammonium, acidulated with hydrochloric acid, when heated with a solution of nitrate of barium, should not yield a precipitate or become turbid, thus showing the presence of a *sulphate*. Neither should an aqueous solution become blue upon the addition of a few drops of the solution of ferrocyanide of potassium, thus showing the presence of *iron*.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the granulated salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the granulated salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM IODINUM. (*am-mo'ni-um i-od'i-num.*)

SYN., Ammonii iodinum, Ammonic iodinum.

VULG., Iodide of ammonium, Hydroiodate of ammonia.

Formula.—NH^4, I; 144.3.

with constant stirring at a moderate heat until it granulates. The object of this process is to remove the iron, which is precipitated by the ammonia as ferric hydrate and separated by filtration while hot. If the sal ammoniac has been otherwise pure, the filtrate may be evaporated to dryness and granulated as directed above. If, however, it contains other impurities besides the iron, it is best to allow the filtrate to cool, stirring it occasionally, and collect the crystalline powder upon a muslin strainer. The impurities will remain in the mother liquor."—*Nat. Disp.*

This salt was formerly prepared by saturating an aqueous solution of iodine with hydrosulphate of ammonia. The ammonia and iodine vapors being driven off by heat, the liquid was filtered and then evaporated. A more recent method is to make a solution of each, the iodide of potassium and sulphate of ammonium, and then mix the two solutions. Their decomposition results in the formation of iodide of ammonium and sulphate of potassium. The two salts are separated by treating the double solution with alcohol, thus causing the sulphate to crystallize out and evaporating the solution to dryness.

Tests.—A 10 per cent aqueous solution of iodide of ammonium when treated with a solution of nitrate of barium should not yield a precipitate, thus showing the presence of a *sulphate;* nor when treated with gelatinized starch the solution should not become blue thus showing the presence of *free iodine;* nor it should not become blue on the addition of a few drops of the solution of ferrocyanide of potassium, thus showing the presence of *iron.*

The Preparations of this salt are the decimal and centesimal triturations.

Triturations.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide of ammonium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide of ammonium. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM NITRICUM. *(am-mo'ni-um ni'tri-cum.)*

SYN., Ammonii nitras, Ammoniæ nitras, Ammonic nitrate.
VULG., Nitrate of ammonia.

Formula.—$NH^4 O, NO^5$; 80.

This salt, which crystallizes in rhombic needle-like prisms, or, is presented in vitrified masses, is formed by treating diluted nitric acid with carbonate of ammonium.

Tests.—An aqueous solution of nitrate of ammonium when treated with a solution of nitrate of barium should not yield a precipitate or become turbid, thus showing the presence of a *sulphate;* nor when acidulated with nitric acid and treated with a solution of nitrate of silver it should not yield a precipitate, thus showing the presence of *chlorine.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the nitrate of ammonium. Deposit the salt in porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the nitrate of ammonium. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM PHOSPHORICUM. (*am-mo'ni-um phos-phor'i-cum.*)

SYN., Hydro-diammonic phosphate, Ammonii phosphas.

VULG., Phosphate of Ammonia.

Formula.—$(NH^4)^2 HPO^4$; 132.

These semi-transparent colorless prisms crystallize out of a double aqueous solution, composed of ammonia and phosphoric acid. They should be preserved in a well-stoppered bottle as they readily effloresce in a dry atmosphere.

Tests.—An aqueous solution of phosphate of ammonium when treated with a solution of chloride of barium should not yield a precipitate or become turbid, thus showing the presence of a *sulphate;* nor it should not yield a precipitate when treated with a solution of nitrate of silver, thus showing the presence of *chlorine.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of phosphate of ammonia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* ot the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts more* of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate of ammonium. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM TARTARICUM. (*am-mo'ni-um tar-tar'i-cum.*)

SYN., Ammonic tartrate.

VULG., Tartrate of ammonia.

Formula.—$(NH^4)^2, H^2 C^4 H^4 O^6$; 141.6.

This is a granular salt that is precipitated from a solution of ammonium when treated with a strong solution of tartaric acid.

The Preparations of tartrate of ammonium are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMMONIUM VALERIANICUM. (*am-mo′ni-um va-le-ri-an′ i-cum.*)

SYN., Ammonii valerianas, Ammonic valerianate.
VULG., Valerianate of ammonium.

Formula.—$NH^4 C^5 H^9 O^2$; 119.

This salt is prepared by neutralizing valerianic acid with vapor ammonia. It crystallizes in colorless four-sided plates, which are both efflorescent and deliquescent respectively, in dry and moist atmosphere, and hence necessitates their being carefully kept in a well-stoppered bottle.

Tests.—An aqueous solution of valerianate of ammonium acidulated with nitric acid when treated with a solution of chloride of barium should not yield a precipitate, thus showing the presence of a *sulphate;* nor it should not yield a precipitate when treated with a solution of nitrate of silver, thus showing the presence of *chlorine.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the valerianate of ammonium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the valerianate of ammonium. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMPELOPSIN. (*am-pe-lop'sin.*)

This is a resinoid of the ampelopsis quinquefolia.

The Preparations of this resinoid are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the resinoid. Deposit the resinoid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the resinoid. Deposit the resinoid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resinoid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMPELOPSIS QUINQUEFOLIA. (*am-pe-lop'sis quin'que-folia.*)

NAT. ORDER, Vitaceæ.

SYN., A. hedaracea, A. heptaphylla, A. irsuta, Cissus hederacea, Hedera quinquefolia, Quinaria hederacea, Q. hirsuta, Vitis hederacea, V. quinquefolia.

VULG., American ivy, False grape, Five leaves, Virginia creeper, Wild wood vine, Woodbine.

This is an indigenous vine found growing wild throughout the United States, and cultivated to a considerable extent as an ornamental creeper. Through the means of its many radiating tendrils it firmly fastens to the bark of trees, to walls, etc., and in this way frequently ascends to a considerable height.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the bark of the recently gathered twigs. Reduce the bark to a coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AMPHISBÆNA VERMICULARE. (*am-phis-bœ'na verm-i-cu-la're.*)

The substance known in medicine under this name is the venom of the *amphisbœna flarescens,** a species of reptilia found in Brazil.

The Preparations of this venom are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty parts, to the decimal preparation, and steadily triturate for fifteen minutes; then add another portion and triturate for fifteen minutes; and finally, the last portion and triturate for thirty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMYGDALUS AMARA. (*a-myg'da-lus a-ma'ræ.*)

NAT. ORDER, Rosaceæ.
SYN., A. communis, Prunus amygdalus.
VULG., Bitter almond.

This tree is indigenous to Africa, growing extensively in the Barbary States particularly in the neighborhood of Morocco. The medicinal properties exist in the fruit;in the form of a crystalline glucocide termed *amygdalin.*†

The Preparations of this fruit are the decimal and centesimal triturations.

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*Dr. W. Schwabe, in his "Pharmacopœia Polygotta," recommends that the poison shall be attenuated by triturating a portion of the "jaw" of the living animal; two parts by weight being used to ninety-nine parts of milk sugar. For the purpose of determining a definite strength, it apparently would be better to secure the venom from the secretory glands in substance; adding to *ten parts* of milk sugar *one part* of the poison.

†AMYGDALIN; $C^{20} H^{27} NO^{11}, 3 H^{2} O$.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of recently grated bitter almonds. Deposit the disintegrated almonds in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for thirty minutes; add *three parts* more of fine milk sugar and again triturate for fifteen minutes; then add balance of fine milk sugar and triturate for fifteen minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of coarse milk sugar to *one part* of recently grated bitter almonds. Deposit the disintegrated almonds in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the almonds and steadily triturate for twenty minutes; then add another portion (fine milk sugar) and triturate for twenty minutes; and finally, the last portion (fine milk sugar) and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AMYL NITRIS. (*am'ill ni'tris.*)

VULG., Nitrite of amyl.

Formula.—$C^5 H^{11} NO^2$; 117.

This substance is prepared by distillation; it is from amylic alcohol or *fusil oil*, distilled in the presence of nitric acid.

"Nitrite of amyl is a yellowish ethereal liquid; sp. gr. of liquid ·877, of vapor 4·03; boiling point 205° F.; soluble in spirits of wine, insoluble in water; converted by fused caustic potash into valerianate of potassium."—*Attfield.*

The Preparations of this substance are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* of alcohol, sp. gr. ·835, *one part of* nitrate of amyl; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ·835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of nitrite of amyl; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

ANACARDIUM OCCIDENTALE. (*an-a-car'di-um oc-ci-den-ta'le.*)

NAT. ORDER, Anacardiaceæ.

VULG., Common cashew nut, Malacca, or marking nut.

ANACARDIUM ORIENTALE. (*an-a-car' di-um o-ri-en-ta' le.*)

NAT. ORDER, Anacardiaceæ.

SYN., A. latifolium, A. officinarum, Avicennia tomentosa, Semecarpus anacardium.

VULG., Marking nut.

This tree, growing in both the East and West Indies (A. occidentale), bears fruit in the form of a kidney-shaped nut, composed of two shells, between which there is found an inky-black juice of an acrid, corrosive nature, consisting of two active principles at least; the one has been termed by Stoedeler, *anacardic acid* and the other *cardol*.

The Preparations of this nut are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the cashew nut (without the kernel). Run through drug mill powdering the shell coarsely. transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the nut.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANACYCLUS OFFICINARUM. (*an-a-cic' lus of-fic-i-na' rum.*)

NAT. ORDER, Compositæ.

VULG., German pellitory.

ANACYCLUS PYRETHRUM. (*an-a-cic' lus pe-re' thrum.*)

NAT. ORDER, Compositæ.

SYN., A. pseudo-pyrethrum, Anthemis pyrethrum, Pyrethrum.

VULG., African pellitory, Pellitory of Spain, Pellitory.

This plant is a perennial, and is a native of Spain. The species first mentioned, *anacyclus officinarum*, is largely cultivated in Germany for its medicinal properties. The value of the plant depends on an acrid, resinous substance, and an acrid fixed oil; properties found in the root.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ‘835, and *six parts* of the recently dried root. Run through drug mill, making a moderately fine powder, transfer to a suitable vessel, moisten with hot water (112° F.), and firmly pack in a cylindrical percolator; add the alcohol from time to time until the percolate measures *fourteen parts*, and then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. ‘835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ‘835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ‘835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. ‘835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. ‘835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ‘835, *one part* of each succeeding dilution.

ANAGALLIS ARVENSIS. (*an-na-gal'lis ar-ven'sis.*)

NAT. ORDER, Primulaceæ.

SYN., A. cœrulea, A. phoenicea.

VULG., Common pimpernel, Poorman's, or Shepherd's, hour, weather or water-glass, Scarlet pimpernel, Weather glass, Red chickweed, Sun dial chickweed.

This trailing plant is an annual, indigenous to Europe, growing in the fields and along the roadsides throughout the United States. Its medicinal properties are alleged to exist in an acrid, volatile oil.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ‘941, and *four parts* of the recently dried plant. Powder coarsely, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. ‘941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ‘941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ‘835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. ‘941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ‘941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ‘835, *one part* ot each succeeding dilution.

ANAGYRIS FŒTIDA. (*a-nag'i-ris fœ'ti-da.*)

NAT. ORDER, Leguinosæ.
VULG., Stinking trefoil, Stinking bean trefoil.

ANATHERUM MURICATUM. (*an-a-the'rum mu-ri-ca'tum.*)

NAT. ORDER, Gramineæ.
SYN., Andropogon muricatus, A. squarrosus, Phalaris zizanoides, Vetiveria odorata, Virana.
VULG., Bena, Cuscus, Khus khus, Vetiver, Vittie vayr, Woetiwear.

ANCHUSA OFFICINALIS. (*an-chu'sa of-fic-i-na'lis.*)

NAT. ORDER, Borraginaceæ.
VULG., Common bugloss, Garden alkanet.

ANDIRA INERMIS. (*an-di'ra in-er'mis.*)

NAT. ORDER, Leguminosæ.
SYN., A. retusa, Geoffroya anthelmintica, G. inermis, G. jamaicensis, G. surinamensis.
VULG., Bastard cabbage tree, Cabbage bark tree, Worm bark.

This tree is a native of the West Indies. Its medicinal properties are alleged to exist in an acrid, bitter resin, found chiefly in the bark.

The Preparations of the bark are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried bark. Run through drug mill making a moderately fine powder, transfer to a suitable vessel and moisten with hot water (112° F.), firmly pack in a cylindrical percolator and add alcohol from to time until the percolate measures fourteen parts; add sufficient water to drive the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANEMONIN. (*an-e-mo'nin.*)

Formula.—$C^{15} H^6 O^6$;

This volatile alkaloidal salt crystallizes in brilliant white needles out of an aqueous distillate of the *anemone pratensis*.

The Preparations of this salt are the decimal and centesimal triturations. Besides, these, there is an oleate of anemonin.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes, then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the alkaloid and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Oleate.—To *forty-eight parts* of oleic acid add *two parts* of anemonin.

ANGELICA ARCHANGELICA. (*an-gel' i-ca arch-an-gel' i-ca.*)

NAT. ORDER, Umbelliferæ.

SYN., A. gmelini, A. officinalis, Archangelica gmelini, A. officinalis, A. peregrina, A. sativa, Cœlopleurum gmelini, Ligusticum actæifolium, L. scoticum, Pleurospermum gmelini.

VULG., American lovage, Garden angelica.

This plant is a biennial, common in the gardens of both Europe and America. It is a native of the mountainous regions of Northern Europe.

The Preparations of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run through drug mill, making a moderately coarse powder, transfer to a suitable vessel and add the alcohol, and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANGELICA ATROPURPUREA. (*an-gel'i-ca a-tro-pur-pu're-a.*)

NAT. ORDER, Umbelliferæ.

SYN., A. triquinata, Archangelica atropurpurea, Imperatoria lucida.

VULG., Dark purple angelica, Great angelica, Purple high-angelica, Masterwort (?).

This species of angelica is indigenous to the United States and Canada.

The Preparations of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run through drug mill making a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANGUSTURA. (*an-gus-too'ra.*)

NAT. ORDER, Rutaceæ.

SYN., A. cusparia, A. vera, Angustura, Bonplandia angostura, B. trifoliata, China amara aromatica, Cusparia febrifuga, C. trifoliata, Galipea cusparia, G. febrifuga, G. officinalis.

VULG., Angustura or cuspari bark.

This is the bark of the *galipea officinalis* (U. S. Pharm.), a tree indigenous to South America. The bark yields upon being treated with water, and then this infusion with alcohol, a crystalline substance termed *casparin.*

The Preparations of this bark are the tincture, its decimal and centesimal dilutions, and its decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the dried bark. Run through drug mill or otherwise powder coarsely, transfer to a suitable vessel and add the alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered bark. Deposit the bark in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered bark. Deposit the bark in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANILINUM SULPHURICUM. (*an-e-lin'um sul-phu'ri-cum.*)

SYN., Kyanol sulphate, Phenylamine sulphate, Phenylia sulphate.
VULG., Sulphate of aniline.

This crystalline substance is formed by treating the colorless, oily liquid aniline (nitro-benzol) with pure sulphuric acid.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes;

add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANISODUS LURIDUS. (*an-i-so'dus lu'rid-us.*)

NAT. ORDER, Solanaceæ.

SYN., A. stramonifolia, Nicandra anomala, Physalis stramonium, Whitleya stramonifolia.

This narcotic plant, which medicinally resembles both belladonna and tobacco, is an indigene of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.*—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves. Powder the leaves coarsely, transfer to a suitable vessel, and add the alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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*The maximum dose of the tincture is 15 drops in twenty-four hours.

ANTENNARIA MARGARITACEA. (*an-ten-na'ria mar-gar-i-ta'cea.*)

NAT. ORDER, Compositæ.

SYN., Gnaphalium margaritaceum.

VULG., Pearly everlasting, Pearl-flowered everlasting.

This herbaceous perennial is indigenous to the United States; it grows wild and in the gardens, commonly, everywhere.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, and *four parts* of the fresh plant. Reduce the plant to a pulp, in a mortar, express and strain and add alcohol until the specific gravity of the mixture is '941; then add alcohol, sp. gr. '941, until the mixture equals sixteen parts. Transfer the plant to a suitable vessel, add the fluid portion expressed and its additional menstruum and macerate for seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANTHEMIS COTULA. (*an'the-mis cot'u-la.*)

NAT. ORDER, Compositæ.

SYN., A. fœtida, Cotula fœtida, Cota, Cyanthemis, Chamomilla spuria, Maruta cotula.

VULG., Mayflower, Mayweed, Stinking chamomile, Wild chamomile, Dog's fennel, Dilly, Dilweed.

This plant is an annual, growing along the roadsides and in waste places both in the United States and Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered plant. Bruise in a mortar, transfer to a suitable vessel, and add the alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANTHEMIS NOBILIS. (*an'the-mis nob'i-lis.*)

NAT. ORDER, Compositæ.

SYN., A. aurea, Chamomilla nobilis, Ormenis nobilis.

VULG., Chamomile, Common, officinal, Roman or true chamomile.

This is a perennial herbaceous plant, indigenous to Europe, and although frequently found growing wild is also extensively cultivated.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant (in flower). Powder coarsely, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANTHOXANTHUM ODORATUM. (*an-thox-an'thum o-do-ra'tum.*)

NAT. ORDER, Gramineæ.

VULG., Sweet vernal grass.

This perennial herb is indigenous to Northern Europe, and is found growing in Africa, Siberia and Greenland.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant (in flower). Powder coarsely, transfer to a suitable vessel. add alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ANTHRAKOKALI. (*an-thra-cok' a-li.*)

Lithanthrakokali simplex.

"This preparation is formed by adding 160 parts of porphyrized (stone) mineral coal to 192 parts of a concentrated and boiling solution of caustic potassa, contained in an iron vessel, the whole being well stirred together. When the mixture is completed, the vessel is taken from the fire, and the stirring continued until the whole is converted into a homogeneous black powder."—*U. S. Disp.*

The Preparations of this mineral are the decimal and centesimal triturations. Besides, these, there is an ointment of *anthrakokali*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the mineral. Deposit the mineral in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the mineral. Deposit the mineral in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the mineral, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *seventy-seven and a half parts* of lard and *seventeen and a half parts* of yellow wax add *five parts* of anthrakokali. Or, to *ninety-five parts* of simple ointment add *five parts* of anthrakokali.

ANTIARIS TOXICARIA. (*an-ti-a'ris tox-i-ca'ria.*)

NAT. ORDER, Urticeæ.

SYN., Arbor toxicaria, Buban upas? Ipo toxicaria? Strychnos tieute, Upas antiaria.

VULG., Upas tree.

This tree is a native of Java. Its therapeutic properties are due to a gum-resinous product which exudes from the inner bark whenever wounded or incised. The active principle is a crystallizable substance soluble in both water and alcohol, and has been named *antiarin.*—C^{14} H^{10} O^{5}.

The Preparations of the upas tree are the tincture and its centesimal dilutions.

The Tincture.—To prepare the tincture take *one hundred parts* of alcohol, sp. gr. '941, and *one part* of the bark of the *recently* dried root. Powder coarsely in an iron mortar, transfer to a suitable vessel, add the alcohol and macerate fourteen days; express and filter.

The *drug power* of this tincture is 1 per cent; or, each minim contains the medicinal properties of *one-hundredth grain* of the bark.

DILUTIONS.—To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the tincture.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

ANTIMONIUM ARSENITUM. (*an-ti-mo'ni-um ar'se-ni-tum.*)

SYN., A. arseniosum.

VULG., Arsenite of antimony.

This is a snow-white crystalline substance formed by dissolving *one part* of arsenious acid in *forty-eight parts* of distilled water, in a glass or porcelain vessel, and adding *nine parts* of freshly prepared chloride of antimony. This double solution is evaporated to a low bulk, then being transferred into a glass retort, over a sand bath, it is distilled. The arsenite condenses in the neck of the retort. Arsenite of antimony should be kept in a well-stoppered bottle.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the arsenite. Deposit the arsenite in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the arsenite. Deposit the arsenite in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANTIMONIUM CHLORIDUM. (*an-ti-mo'ni-um chlo'ri-dum.*)

SYN., Antimonium muriaticum.

VULG., Butter of antimony.

The *true* butter of antimony is a white, crystalline, semi-transparent substance procured by distilling a dense solution of the sulphide of antimony. Sulphide of antimony is boiled in four or five times its weight of pure hydrochloric acid in the *open air* in a porcelain capsule or evaporating dish. This product is then evaporated to a low bulk and subsequently distilled, the solid chloride condensing in the neck of the retort.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANTIMONIUM CRUDUM. (*an-ti-mo'ni-um crud'um.*)

SYN., Antimonius sulphide, Sesquichloride of antimony, Stibium sulphuretum nigrum, Tersulphuret of antimony.

Formula.—$Sb^2 S^3$; 340.

This is the native sulphide freed from impurities by fusion. It is of a grayish-black color, compact, and fractures with lustre. It is the *antimonii sulphidum purificatum* of the U. S. Pharmacopœia. Under this heading directions are given for the further purification of the native sulphide, which practically are as follows: The sulphide is first reduced to a very fine powder and by elutriation the coarser particles are separated from the finer; the finely divided powder is then treated with water of ammonia for a few days, the whole being frequently agitated, when the water of ammonia is poured off and the sulphide is repeatedly washed with water and finally dried.

The Preparations of this sulphide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANTIMONIUM IODATUM. (*an-ti-mo'ni-um i-o-dat'um.*)

SYN., Antimonii iodidum.

VULG., Iodide of antimony, Teriodide of antimony.

"According to Mr. W. Copney, of London, this iodide may be conveniently prepared by gently heating in a Florence flask, metallic antimony and iodine, in proportions of one eq to three.

The elements combine with sudden heat and liquidfication; and, upon withdrawal of the heat the iodide formed solidifies and is removed from the flask by breaking it. Iodide of antimony, as thus prepared, forms a somewhat crystalline, foliated mass, which, when pulverized, yields a deep, orange-red powder. By the action of water it is decomposed. It has been tried as an alterative in a dose varying from a quarter of a grain to a grain, given in the form of pills."—*U. S. Disp.*

The Preparations of this iodide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide. Deposit the iodide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the iodide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANTIMONIUM OXIDATUM. (*an-ti-mo'ni-um ox-i-da'tum.*)

SYN., Antimonii oxidum.

VULG., Antimonous oxide, Oxide of antimony, Sesquioxide of antimony.

Formula.—$Sb^2 O^3$; 292.

The oxide of antimony is prepared by digesting, with the aid of heat, sulphuret of antimony in muriatic acid and subsequently treating the mixture with a small portion of nitric acid. The precipitate is then thoroughly washed with water to remove the acid, and is further treated with water of ammonia. The precipitate is then transferred to a muslin filter and repeatedly washed with distilled water until the washings no longer yield a precipitate with nitrate of silver.

The oxide of antimony is an odorless, tasteless, grayish-white, dense powder, which is only slightly soluble in water, but readily soluble in water strongly acidified with hydrochloric or tartaric acids; it is wholly insoluble in alcohol.

Tests.—Oxide of antimony made soluble in a solution of tartaric acid should not yield a precipitate when treated with a solution of nitrate of silver, thus showing the presence of *chlorine*; nor when treated with a solution of chloride of barium it should not yield a precipitate, thus showing the presence of a *sulphate*; nor finally, when treated with a solution of ferrocyanide of potassium, a precipitate, either colored or colorless, thus showing the presence of *metals*.

The Preparations of this oxide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oxide. Deposit the oxide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts more* of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oxide. Deposit the oxide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the oxide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANTIMONIUM SULPHURATUM AUREUM. (*an-ti-mo'ni-um sul-phu-ra'tum au're-um.*)

SYN., Antimonic persulphide, Antimonii oxysulphuretum.

VULG., Golden sulphuret of antimony, Sulphurated antimony.

This is a product resulting from treating a hot alkaline solution (potassic or sodaic) of sulphide of antimony with diluted sulphuric acid. A portion of the sulphide is converted by the presence of the alkali into the oxide; hence, sulphurated antimony is simply a mixture of the sulphide and oxide, the latter being present in a limited as well as in a variable quantity.

The Preparations of sulphurated antimony are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of sulphurated antimony. Deposit the antimony in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of sulphurated antimony. Deposit the antimony in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the antimony, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ANTIMONIUM TARTARICUM. (*an-ti-mo'ni-um tar-tar'i-cum.*)

SYN., Antimonii potassio tartras, Potassio antimonic oxytartrate, Stibium?

VULG., Tartar emetic.

Formula.—$H^4 O^7 H^2 O$; 668.

This salt is a double tartrate composed of antimony and potassium; it is a chemical combination resulting from mixing together (moist) oxide of antimony and cream of tartar (bitartrate of potassium).

Tartar emetic (an oxytartrate) crystallizes in colorless, transparent, tri-lateral crystals. The crystals become opaque on exposure to the air. Tartrate of antimony is soluble in water (59°F.) to this extent: *one part* of the salt in *seventeen parts* of water. It is only slightly soluble in alcohol, sp. gr. '941, and is precipitated from its aqueous solution by an excess of alcohol, sp. gr. '835.

Tests.—Acidulated with acetic acid an aqueous solution of tartrate of antimony when treated with a solution of chloride of barium should not yield a precipitate, thus showing the presence of a *sulphate;* nor when treated with a solution of ferrocyanide of potassium a precipitate, thus showing the presence of *iron*. Neither should any cloudiness be produced upon the addition of a few drops of the solution of nitrate of silver, thus indicating the presence of a *chloride*.

The Preparations of this salt are the decimal and centesimal triturations, their solutions and subsequent dilutions.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the tartrate. Deposit the tartrate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the tartrate. Deposit the tartrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the tartrate, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SOLUTIONS.*—To *ten parts* of alcohol, sp. gr. '835, add *one part* of the second decimal trituration; agitate thoroughly, and filter. This solution, in *drug power*, equals the second decimal *dilution*.

To *one hundred parts* of alcohol, sp. gr. '835, add *one part* of the *first centesimal* trituration; agitate thoroughly, and filter. This solution, in *drug power*, equals the first centesimal *dilution*.

DILUTIONS.—To prepare the *third decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal *solution*; the *fourth decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the third decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal *solution*; the *third centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the second centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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* It is impossible to prepare a *tincture* of tartar emetic; its fluid preparation is therefore, necessarily, a *solution*. Being but slightly soluble in alcohol, in order to secure a fluid preparation of a definite strength, the *second decimal* and the *first centesimal* triturations are made the basis for the liquid attenuations or potentizations (?).

ANTIRRHINUM LINARIUM. (*an-tir-rhi'num lin-a'ria.*)

NAT. ORDER, Scrophulariaceæ.
SYN., Linaria vulgaris.
VULG., Butter and Eggs, Snap dragon, Toad flax, Yellow toad flax.

This plant is an herbaceous perennial, and although an indigene of Europe, is found growing wild along the roadsides throughout the Middle States. The medicinal properties are both bitter and acrid.

The Preparations of this plant are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

APHIS CHENOPODII GLAUCI. (*a'phis che-no-po'dii glau'ci.*)

CLASS, Insecta.
ORDER, Rhynchota.
FAMILY, Aphidæ.
VULG., Plant Louse.

The Preparations of this insect are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, first introduce a small sponge into a medium size wide-mouth bottle, and subsequently a few drops of syrup or a small quantity of sugar; then afterwards, introducing the *living* insects into the bottle, pour on to the sponge a drachm or two of chloroform. Remove the insects, bruise them in a mortar, and to *four parts* of this animal matter, after transferring it to a suitable vessel, add *sixteen parts* of alcohol, sp. gr. '835, and macerate seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the various tissues of the living insect.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

APIS MELLIFICA. (*a'pis mel-lif'i-ca.*)

CLASS, Insecta.
ORDER, Hypmenoptera.
FAMILY, Apidæ.
VULG., Honey Bee.

The Preparations of this insect are the tincture, its subsequent decimal and centesimal dilutions and the decimal and centesimal triturations. Besides these, there is a lotion of apis mellifica.

The Tincture.—To prepare tne tincture, first introduce a small sponge into a medium size wide-mouth bottle, and subsequently a few drops of syrup or a small quantity of sugar; then afterwards, introducing the *living* insect into the bottle, pour on to the sponge a drachm or two of chloroform. Remove the insects, bruise them in a mortar, and to *four parts* of this animal matter, after transferring it to a suitable vessel, add *sixteen parts* of alcohol, sp. gr. '835, and macerate seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties* of *one-fourth grain* of the living insect.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the (chloroformed) bees. Deposit the bees in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for twenty minutes; add *three parts* more of fine milk sugar and again triturate for fifteen minutes; then add balance of milk sugar (fine) and triturate for fifteen minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

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* Undoubtedly the medicinal properties are largely due to *apium virum* or honey bee poison, which is alleged to be also found as a constituent of the bee bread.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the (chloroformed) bees. Deposit the bees in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the bees, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Lotion.—To *seven parts* of distilled water and *two parts* of glycerin, add *one part* of the tincture of apis mellifica.

APIUM GRAVEOLENS. (*a'pi-um grav'e-o-lens.*)

NAT. ORDER, Umbelliferæ.

SYN., A. echinatum, Leptocaulis echinatus.

VULG., Wild celery (?), Smallage (?), Lovage (?).

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the recently dried whole plant (root, stalk, leaves and seeds). Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. ·941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ·941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. ·941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ·941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

APOCYNUM ANDROSÆMIFOLIUM. (*a-pos'se-num an-drosæ-mi-fo'li-um.*)

NAT. ORDER, Apocynaceæ.

VULG., American ipecac, Bitter root, Black indian-hemp, Catch fly, Dog's bane, Fever twig, Fly trap, Honey bloom, Ipecac milk, Milk weed, Spreading dog-bane, Wandering milk weed.

This herbaceous, indigenous, perennial is found growing along fences and by the roadsides throughout the United States and Canada.

The Preparations of this plant are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

APOCYNUM CANNABINUM. (*a-pos'se-num can-na-bi'num.*)

NAT. ORDER, Apocynaceæ.
SYN., A. hypericifolium, A. pubescens, A. sibiricum.
VULG., Dog's bane, Indian hemp, Canadian hemp.

The Preparations of this species of the *apocynum* are the tincture, its subsequent decimal and centesimal dilutions, and the decimal and centesimal triturations of *apocynin*.*

The Tincture.—To prepare the tincture take *twelve parts* of alcohol, sp. gr. '981, *four parts* of glycerin, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the menstruum and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '981, that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '981, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '981, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '981, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '981, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of *apocynin*. Deposit the active principle in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen

minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

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* The active principle of the *apocynum cannabinum*.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of *apocynin*. Deposit the resinoid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resinoid and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

APOMORPHINÆ HYDROCHLORAS. (*a-po-mor-phe'na hy-dro-chlo'ras.*)

SYN., Apomorphina hydrochlorate.
VULG., Apomorphine, Muriate of apomorphia.
Formula.—$C^{17} H^{17} NO^{2}$; 303.5.

This is an alkaloidal salt obtained from morphia by treating hydrochlorate of morphia with an excess of hydrochloric acid, by the aid of heat, precipitating the soluble salt with bicarbonate of sodium and agitating it with a solution of chloroform acidulated with strong hydrochloric acid. The apomorphia crystallizes out in minute grayish-white crystals, which readily change to a greenish color on exposure to light and air. Apomorphia is soluble in about 50 parts of alcohol, and in about 7 parts of water, 59° F. The alcoholic solution is *bluish-green.*

Tests.—Ferric chloride when added to a solution of apomorphia causes the solution to assume a *rose-red* color; but, when added to a solution of morphia proper, the color of the solution is then *blue.*

The Preparations of this alkaloid are the decimal and centesimal triturations. Besides, there is an oleate of *apomorphia.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of apomorphia. Deposit the alkaloid in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of apomorphia. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Oleate.—In *one hundred and ninety-nine parts* of oleic acid, in a warm Wedgewood mortar, dissolve *one part* of apomorphia. First, rub the salt with a small portion of the acid, and then gradually add the balance of the acid, triturating until the solution of the salt is thoroughly effected.

AQUILEGIA VULGARIS. (*ak-we-le'gia vul-ga'ris.*)

NAT. ORDER, Ranunculaceæ.

VULG., Columbine.

This is a herbaceous perennial, indigenous to Europe, growing in low, marshy places, in deep forests.

The Preparations of this plant are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (whole) plant. Run root, leaves and flowers, through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARALIA HISPIDA. (*a-ra'le-a his'pi-da.*)

NAT. ORDER, Araliaceæ.

VULG., Bristle stem, Sarsaparilla, Dwarf elder, Wild elder.

This perennial, found growing about rocky places in the fields and along the roadsides, throughout the United States, is an undershrub from one to two feet high. It receives the name "bristle stem" from the sharp, firm spines or bristles covering the bark, low down next to the root.

The Preparations of this shrub are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARALIA NUDICAULIS. (*a-ra'le-a nu-de-cau'lis.*)

NAT. ORDER, Araliaceæ.

VULG., American sarsaparilla, False sarsaparilla, Wild sarsaparilla, Small spikenard, Naked-stalk aralia.

This herbaceous perennial is indigenous, growing in moist woodlands, in rocky shady places, in rich loamy soil.

The Preparations of this plant are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARALIA RACEMOSA. (*a-ra'le-a ras-e-mo'sa.*)

NAT. ORDER, Araliaceæ.

VULG., American spikenard, Berry-bearing aralia, Pettymorrel, Spikenard.

This plant is an indigene, growing in moist woodlands.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARALIA SPINOSA. (*a-ra'le-a spi-no'sa.*)

NAT. ORDER, Araliaceæ.

VULG., Angelica tree, Aralia bark, Hercules club, (Southern) Prickly ash (?), Prickly elder, Toothache tree.

This indigenous shrub, a habitat of moist woodlands, is found growing most luxuriantly throughout the Southern States.

The Preparations of aralia bark are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the *fresh* bark from the twigs. Run through drug mill, reduce to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of fresh bark.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

ARANEA AVICULARIS. (*a-ra'nea a-vic-u-la'ris.*)

CLASS, Arachnidæ.

ORDER, Araneidæ.

FAMILY, Epeiridæ.

VULG., Bird spider.

ARANEA DIADEMA. (*a-ra'nea di-a-dem'a.*)

CLASS, Arachnidæ.
ORDER, Araneidæ.
FAMILY, Epeiridæ.
VULG., Cross spider, Diadem spider, Garden spider, Papal cross spider.

ARANEA SCINENSIA. (*a-ra'nea ci-nen'she-a.*)

CLASS, Arachnidæ.
ORDER, Araneidæ.
FAMILY, Epeiridæ.
VULG., Gray spider, Kentucky gray spider.

The Preparations from these several species of this family, *Epeiridæ*, are the tincture and its subsequent decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh animal matter. Secure the *living* spiders in a wide-mouth bottle of medium size, first introducing a small size sponge; add a drachm or two of chloroform, then remove the spiders and crush them in a Wedgewood mortar and to *four parts* of the animal matter, after transferring it to a suitable vessel, add the alcohol and macerate for seven days. Express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the living insect.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp.gr. ' 835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the (chloroformed) spiders. Deposit the spiders in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for twenty minutes; add *three parts* more of fine milk sugar and again triturate for fifteen minutes; then add balance of milk sugar (fine) and triturate for fifteen minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the (chloroformed) spiders. Deposit the spiders in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the spiders, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARECA CATECHU. (*a-re'ca cat'e-chu.*)

NAT. ORDER, Palmæ.
SYN., A. faufel.
VULG., Areca nuts, Arechu palm, Betel nut, Betel nut-palm, Catechu, Goovaka, Goowa, Medicinal cabbage tree, Pinang.

This palm is a native of India. "The kernel, which is the betel nut of commerce, is of a roundish conical shape, rather larger than a chestnut, externally of a deep brown, diversified with a fawn color, so as to present a reticular appearance, internally brownish-red with whitish veins, very hard, of a feeble odor when broken, and of an astringent somewhat acrid taste." —*U. S. Disp.*

The Preparations of this nut are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '941, and *six parts* of betel nut. Reduce to a moderately fine powder, moisten with hot water (112° F.) and firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate equals *fourteen parts;* then add sufficient water to drive the balance of the menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the nut.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARCTIUM LAPPA. (*arc'ti-um lap'pa.*)

NAT. ORDER, Compositæ.
VULG., Burdock.

This plant, a biennial, is indigenous to both Europe and Asia. It grows in cultivated and uncultivated soil, and in waste places, in all parts of the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the *seeds.* Run the seeds through drug mill, reduce to a moderately fine powder, moisten with hot water (112° F.), firmly pack in a conical percolator and add alcohol, sp. gr. '941, from time to time, until the percolate measures *fourteen parts;* then add *two parts* of water in order to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARGEMONE MEXICANA. (*ar-ge-mo'ne mex-i-ca'na.*)

NAT. ORDER, Papaveraceæ.

VULG., Prickly poppy, Thorn poppy, Yellow thistle.

This annual is a native of Mexico, and is found growing in the Southwestern States, in the West Indies, in Brazil, in Africa and Southern Asia.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *six parts* of the seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with a mixture composed of equal parts of alcohol, sp. gr. '835, and sulphuric ether; cover the vessel closely and macerate for an hour or two, then firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts. Add *sufficient* distilled water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '920, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '920, *two and one-fourth parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARGENTUM. (*ar-gen'tum.*)

SYN., Argentum foliatum, Argentum metallicum, Argentum purificatum.

VULG., Silver.

Symbol.—Ag.

Pure silver may be obtained by dissolving a silver coin in nitric acid, treating this double solution with diluted hydrochloric acid and the resulting precipitate (chloride of silver) with a limited quantity of diluted sulphuric acid, and then floating a piece of sheet zinc on the mixture. The metallic silver is thus precipitated. The precipitate, after about twenty-four hours, is collected on a filter and thoroughly washed with water.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of silver. Deposit the metal in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for twenty minutes; add *three parts* more of fine milk sugar and again triturate for fifteen minutes; then add balance of milk sugar (fine) and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts more* of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of silver. Deposit the metal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion,* thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARGENTUM CHLORIDUM. (*ar-gen'tum chlo'ri-dum.*)

SYN., Argentum muriaticum, Argentic chloride.

VULG., Chloride of silver.

Formula.—Ag Cl.

This is the white feathery precipitate, produced when mixing a solution of nitrate of silver with a soluble chloride.†

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* *This* portion should be coarse milk sugar, and should be gradually added during the process of triturating.

† Both the chloride and its triturations should be kept away from the light, in the dark, in bottles covered with *tin foil.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chloride. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the chloride. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARGENTUM CYANURETUM. (*ar-gen'tum cy-an-u-re'tum.*)

SYN., A. hydrocyanicum, Argentic cyanide.

VULG., Cyanide of silver.

Formula.—Ag Cy.

This salt is produced by decomposing ferrocyanide of potassium with diluted sulphuric acid, and passing the resulting *hydrocyanic acid* into a solution of nitrate of silver. The precipitate thus formed is cyanide of silver.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the cyanide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the cyanide. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARGENTUM IODATUM. (*ar-gen'tum i-o-dat'um.*)

SYN., Argentic iodide.
VULG., Iodide of silver.
Formula.—Ag I.

This salt is produced by adding a solution of iodide of potassium to a solution of nitrate of silver. The resulting pale yellow insoluble precipitate, is iodide of silver.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARGENTUM NITRICUM. (*ar-gen'tum ni'tri-cum.*)

SYN., Argenti nitras, Argentic nitrate.
VULG., Lunar caustic, Nitrate of silver.
Formula.—Ag NO^3; 170.

This silver salt is prepared by treating pure silver with diluted nitric acid and evaporating the solution to dryness, and afterwards dissolving it, by the aid of heat, in a limited quantity of water, from which on cooling, colorless, rhombic crystals of pure nitrate of silver are formed. This salt and its preparations, should be kept from the light, in the dark, in bottles covered with tin foil.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.*—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the nitrate of silver. Deposit the silver in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the nitrate of silver. Deposit the silver in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARGENTUM PHOSPHORICUM. (*ar-gen'tum phos-phor'i-cum.*)

SYN., Argentic phosphate.
VULG., Phosphate of silver.

Formula.—$Ag^3 PO^4$; 180.

This salt is a pale yellow precipitate formed by adding to a solution of phosphate of sodium a solution of nitrate of silver.

Tests.—The characteristic test for the silver salts, in solution, is first the addition of hydrochloric acid or chloride of barium; this produces a precipitate of *chloride of silver.* Boil the precipitate in nitric acid; being a silver salt it will *not* be thus made soluble. Drain off the acid and treat the precipitate with a solution of ammonia, in which it is soluble. Finally, treat this solution, *in excess*, with an acid; this will reprecipitate the *chloride of silver.* This salt, and its preparations, should be

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*Triturated with dry, pure milk sugar, *in the dark*, and kept secure from both air and light, in well-stoppered bottles, covered with tin foil, the nitrate of silver is less liable to oxidation than when attenuated with either alcohol or distilled water.

kept from the light, in the dark, in bottles covered with tin foil.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the phosphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* ot each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARISTOLOCHIA CLEMATITIS. (*a-ris-to-lo'chi-a clem-a-ti'tis.*)

NAT. ORDER, Aristolochiaceæ.

SYN., A. creticæ, A. longæ, A. vulgaris.

VULG., Upright birthwort, Serpentaria (?), Snakeroot (?).

This plant, a perennial, is indigenous to Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARISTOLOCHIA MILHOMENS. (*a-ris-to-lo'ke-a mil-ho'mens.*)

NAT. ORDER, Aristolochiaceæ.
SYN., A. cymbifera, A. grandiflora.
VULG., Brazilian snakeroot.

This species of aristolochia is indigenous to South America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried (whole) plant (in flower). Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARISTOLOCHIA SERPENTARIA. (*a-ris-to-lo'ke-a ser-pen-ta'ria.*)

NAT. ORDER, Aristolochiaceæ.
SYN., A. hastata, A. hirsuta, A. officinalis, A. sagittata, A. virginica, Endodeca bartonii, E. serpentaria, Serpentaria, S. virginica.
VULG., Birthwort, Virginia snakeroot.

This plant is an herbaceous perennial growing in rich sandy soil throughout the Middle, Southern, and Western States.

The Preparations of this plant are the tincture and its subsequent decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and moisten with hot water (112° F.), firmly pack in a conical percolator and pour on the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to the powdered root to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARNICA MONTANA. (*ar'ni-ca mon-ta'na.*)

NAT. ORDER, Compositæ.

SYN., Caltha alpina, Chrysanthemum latifolium, Doronicum austriacum quartum, D. germanicum, D. montanum, D. oppositifolium, D. plantaginis folio alternum, Nardus celtica altera, Panacea lapsorum, Ptarmica montana.

VULG., Celtic nard, Leopard's bane, Mountain arnica, Mountain tobacco.

This is a perennial herbaceous plant, indigenous to the mountainous regions of Europe and Siberia.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is a lotion and an ointment of arnica.

The Tincture.*—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and moisten with hot water (112° F.), firmly pack in a conical percolator and pour on the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to the powdered root to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '920, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '920, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

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*Tincture of arnica for external purposes may be prepared by macerating for fourteen days in *sixteen parts* of alcohol, sp. gr. '920, *three parts* of arnica *flowers*.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

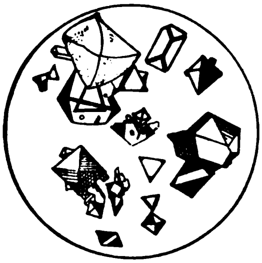
Lotion.—To *seven parts* of water and *two parts* of glycerin, add *one part* of the tincture (flowers).

Ointment.—To *eighty parts* of lard and *twenty parts* of yellow wax, add *ten parts* of arnica flowers. Run flowers through drug mill, reduce to a coarse powder, transfer to a suitable vessel, *moisten* with alcohol, sp. gr. ·920, and macerate for an hour or two; then melt the lard and wax, add the arnica flowers and simmer over a moderately hot fire until the alcohol is driven off and the flowers rise to the top in a *crisp* state. Drain off the ointment, filter while hot, and stir occasionally until cold.

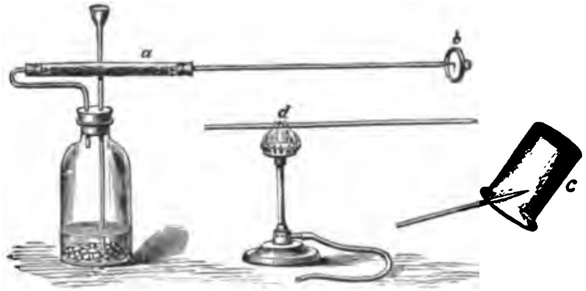
ARSENICUM ALBUM. (*ar-sen'i-cum al'bum.*)

SYN., Acidum arsenicum, Arsenious acid, Arsenious anhydrid (?).
VULG., White arsenic.

Formula.—$As^2 O^3$; 198.



Arsenious acid[*] is commonly prepared by roasting native arsenio-sulphide of iron in a current of air. The oxygen of the air combines with the vapor of the metallic (?) element (arsenicum), and, condensing, forms the *white arsenic* of commerce. Arsenious acid occurs as a heavy, white powder, or in sublimed, vitrous, glass-like masses; the latter, on keeping, become opaque. The stratified appearance sometimes seen in the vitrous form is caused by



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[*] MARSH'S TEST.—The detection of arsenious acid in medico-legal cases, and in cases of accidental poisoning (post-mortem), particularly in complex mixtures (contents of stomach) containing various forms of organic matter, is oftentimes desirable but frequently is exceedingly difficult. The following experiment, when carefully conducted, is a very satisfactory one. Pour the suspected liquid into the generating-bottle (See cut), add a few pieces of pure granulated zinc, or magnesium, and through tube, with the funnel end, pour chemical pure sulphuric acid in proportion of *one part* to *six* of the suspected liquid, or the suspected liquid and water if water must be added. The acid attacking the zinc, liberates hydrogen (gas). The

the irregular condensation of the vapor. The acid is purified by re-sublimation. The colorless, transparent, octahedral crystals of *true* arsenious acid, or the arsenite of hydrogen—$H^3 Ar O^3$ or the crystallized (re-sublimed) arsenious anhydrid—$As^2 O^3$, are shown in the margin. The vitrous form of arsenious acid is soluble in 34 parts of water 59° F., and in 9.5 parts of water 212° F., from out of which (latter) solution it readily crystallizes on cooling.

Tests.—At 400° F., arsenious acid is thoroughly volatilized. It dissolves completely, with the aid of heat, in diluted hydrochloric acid.

The Preparations of arsenicum are the decimal and centesimal triturations, their solution,* and their subsequent decimal and centesimal dilutions.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of arsenious acid. Deposit the acid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

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hydrogen thus set free reduces the arsenious acid, if present, and becomes arseniuretted hydrogen gas ($As H^3$). Fragments of chloride of calcium, which act as a dryer to the now escaping arseniuretted hydrogen, are placed in the wider glass tube *a*, just prior to the test. When the gas has been escaping for some minutes, or sufficiently long to expel *all* the air originally existing in the bottle, set light to the jet at *b*, at which point (in the flame) hold a piece of white earthen-ware or porcelain. If arsenicum is present a *brown* deposit will soon appear. To determine if the deposit actually is metallic arsenic, or, if it may not be metallic antimony, treat the spot with a drop of the solution of chloride of lime; if arsenicum, it will be immediately dissolved, antimony not being thus affected. The arseniuretted hydrogen being decomposed by heat, the metallic spot may be produced within the delivery tube, beyond the flame, as shown at *c*.

*The dilutions may be commenced by making an alcoholic solution of the *second decimal* and *first centesimal* triturations; using *one part* of the trituration to either *ten* or *one hundred parts* of alcohol, sp. gr. '941. The first decimal solution is necessarily an *aqueous* one; hence, *must be* cautiously employed when used to medicate discs and globules.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of arsenious acid. Deposit the acid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the acid and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AQUEOUS SOLUTION.—To *one hundred parts* of distilled water add *three and one-third parts* of arsenious acid, and dissolve with the aid of heat in water bath.

The *drug power* of this solution is 3.3 per cent; or, each minim contains *one-three-hundredths of a grain* of arsenious acid.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven parts* of distilled water, *three parts* of the aqueous *solution*.

The *second decimal* dilution requires to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '385, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven parts* of alcohol, sp. gr. '941, *three parts* of the *aqueous solution*.

All subsequent dilutions are made by adding to *ninety-seven parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

ARSENICUM IODATUM. (*ar-sen'i-cum i-o-dat'um.*)

SYN., Arsenious Iodide.

VULG., Iodide of arsenic.

Formula.—As I^3; 456.

Iodide of arsenic is prepared by thoroughly incorporating together arsenious acid and iodine, in a Wedgewood mortar, and then liquefying the mixture in a loosely-stoppered Florence flask with the aid of heat. It is completely soluble in water (59° F.), is soluble in boiling alcohol (172° F.), but crystallizes on cooling, and is readily volatalized without residue.

The Preparations of this iodide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide. Deposit the iodide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the iodide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARSENICUM RUBRUM. (*ar-sen'i-cum ru'brum.*)

SYN., Arsenic bisulphide, Arsenious sulphide, Arsenicum sulfuratum rubrum, A. bisulphuretum, Rubinus arsenicalis, Sulphuretum arsenici rubrum.

VULG., Realgar, Red sulphuret of arsenic, Sandarach, Sulphide of arsenic.

Formula.—$As^2 S^2$; 182.

This is the native red sulphide of arsenic found in volcanic regions, and in Saxony, Bohemia, and Transylvania. It is sometimes artificially prepared by the directed union of arsenious acid and sulphur; the two being fused or sublimed together.

The Preparations of this sulphide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARSENICUM TERSULPHURETUM. (*ar-sen'i-cum ter-sul-fu-ret'um.*)

SYN., A. citrinum, A. sulfuratum flavum, Arsenious sesqui-sulphide, Sulfuretum arsenici flavum, Aurum pigmentum.

VULG., Auri pigmentum, King's yellow, Orpiment, Sesquisulphide of arsenic, Yellow sulphuret of arsenic.

Formula.—$As^2 S^3$; 198.

This is the native yellow sulphide of arsenic.

The Preparations of this sulphide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ARTEMESIA CALIFORNICA. (*ar-te-mis'ia cal-i-for'ni-ca.*)

NAT. ORDER, Compositæ.

VULG., Wild sage, Sage brush.

This plant is indigenous to the United States. It grows on the plains in barren sandy places, on both sides of the Rocky Mountains.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the (whole) plant. Run the plant through drug mill, reduce to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARTEMISIA VULGARIS. (*ar-te-mish'e-a vul-ga'ris.*)

NAT. ORDER, Compositæ.

VULG., Mugwort, Common artemisia.

This perennial, growing wild throughout Europe, is thought by NUTTALL to differ from the *artemisia vulgaris* of this country, which he considers a distinct species.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of recently dried mugwort (the whole plant), root, stalk and leaves. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ARUM MACULATUM. (*a'rum mac-u-la'tum.*)

NAT. ORDER, Araceæ.

SYN., Arum vulgare, Aronis communis.

VULG., Common arum, Cuckoopint, Cuckowpint (?), Lords and ladies, Spotted arum, Wake robin (?).

This plant is an herbaceous perennial, indigenous to Middle and Southern Europe.

(See Arum triphyllum.)

ARUM TRIPHYLLUM. (*a'rum tri-phyl'lum.*)

NAT. ORDER, Araceæ.

SYN., Arisæema triphyllum, Arum atrorubens.

VULG., Dragon's root, Indian turnip, Jack-in-the-pulpit, Wake robin.

This species of arum is native to North and South America. It is a habitat of moist, shady places. Its medicinal properties are due to an exceedingly volatile, acrid principle, which is readily dissipated by heat, and is almost wholly lost by the process of drying, and which is not soluble in either alcohol or water. It is alleged that fresh specimens of the root can be preserved for a considerable length of time, if buried in sand.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, to *five parts* of alcohol, sp. gr. '835, *six parts* of ether and *five parts* of glycerin, add *four parts* of the *fresh* root. Bruise the root to a pulp, in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol, ether, and glycerin, and macerate fourteen days; express and filter, and evaporate (spontaneously) until the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of ethereal spirits of glycerin * *four parts* of the tincture.

All subsequent dilutions are made by adding to *nine parts* of the ethereal spirits of glycerin, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of the ethereal spirits of glycerin *one part* of the tincture.

All subsequent dilutions are made by adding to *nine parts* of the ethereal spirits of glycerin, *one part* of each succeeding dilution.

ARUNDO MAURITANICA. (*a-run'do mau-ri-tan'i-ca.*)

NAT. ORDER, Gramineæ.

VULG., Reed.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (grass) rootlets. Run the root through drug mill, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to

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* The formula for the *ethereal spirits of glycerin*, in which the medicinal properties of *arum triphyllum* are largely retained, is as follows: Sulphuric ether *six parts;* alcohol and glycerin, each, *five parts.*

ninety-nine parts of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ASAFŒTIDA. (*as-a-fet' e-da.*)

NAT. ORDER, Umbellifera.

SYN., A. disgunensis, F. narthex, F. persica, Narthex asafœtida.

This gum resin is from the root of the *narthex asafœtida*, an indigene of Persia and Afghanistan.

The Preparations of this gum resin are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *two parts* of asafœtida. Bruise and break into fragments, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; filter.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the gum resin.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* of alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ASARUM CANADENSE. (*as' (a)-rum can-(a)-den' sis.*)

NAT. ORDER, Aristolochiaceæ.

VULG., Canada, Indian or Wild snakeroot, Canadian or Kidney-leaved asarabacca, Canada ginger, Canada snakeroot, Colt's foot, Heart root, Indian ginger, Vermont snakeroot, Wild ginger, Wild turnip.

This plant is indigenous to the United States and Canada.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-seven and three-fourths parts*** of alcohol, sp. gr. '835, ***two and one-fourth parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

ASARUM EUROPÆUM. (*as'(a)-rum eu-ro-pe'um.*)

NAT. ORDER, Aristolochiaceæ.

SYN., A. vulgare, Nardum rusticanum.

VULG., Asarabacca, European snakeroot, Fole's foot, Hazelwort, Wild nard.

This plant is an herbaceous perennial, growing in shady places, in woods, throughout Central and Southern Europe.

The Preparations of this plant are the tincture, and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '835, and ***six parts*** of the ***recently*** dried (whole) plant. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of ***three-eighths grain*** of the recently dried plant.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***seven and three-fourths parts*** alcohol, sp. gr. '835, ***two and one-fourth parts*** of tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-seven and three-fourths parts*** of alcohol, sp. gr. '835, ***two and one-fourth parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

ASCLEPIAS CURASSARICA. (*as-kle'pe-as cu-ras-sa'ri-ca.*)

NAT. ORDER, Asclepiadaceæ.

VULG., Bastard ipecac, Red head, Blood weed.

This plant is a habitat of the West Indies. The entire plant is medicinal. It is alleged to be in its effect emetic, anthelmintic, and cathartic, and is also considerably used in obstinate gonorrhœa.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '941, and ***four parts*** of the ***recently*** dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

ASCLEPIAS INCARNATA. (*as-kle'pe-as in-car-na'ta.*)

NAT. ORDER, Asclepiadaceæ.

SYN., Amæna.

VULG., Flesh-colored asclepias, Flesh-colored swallowwort, Rose-colored silkweed, Swamp milkweed, Swamp silkweed, White Indian hemp.

(See Asclepias tuberosa.)

ASCLEPIAS SYRIACA. (*as-kle'pe-as syr-i'a-ca.*)

NAT. ORDER, Asclepiadaceæ.

SYN., A. cornuti.

VULG., Milkweed, Silkweed, Virginian swallowwort.

(See Asclepias tuberosa.)

ASCLEPIAS TUBEROSA. (*as-kle'pe-as tu-be-ro'sa.*)

NAT. ORDER, Asclepiadaceæ.

SYN., A. decubens.

VULG., Butterfly weed, Canada root, Colic root, Flux root, Orange apocynum, Orange swallow-root, Pleurisy root, Swallow root, Tuber root, White root, Wind root.

The Preparations of this plant (these several species of the asclepias) are the tincture, and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ASCLEPIAS VINCETOXICUM. (*as-kle'pe-as vin-ce-tox'i-cum.*)

NAT. ORDER, Asclepiadaceæ.

SYN., Cynanchum vincetoxicum, Vincetoxicum.

VULG., White swallowwort.

This herbaceous plant is a native of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently gathered (whole) plant. Run plant through drug mill, reduce to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently gathered plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ASIMINA TRILOBA. (*a-si'mi-na tri-lo'ba.*)

NAT. ORDER, Anonaceæ.

SYN., Anona triloba, Asimina campaniflora, Orchidocanpium arietinum, Parcelia triloba, Uvaria triloba.

VULG., Paw paw, Custard apple tree.

This small tree is a native of North America, of the order above given, and, therefore, is not to be confounded with the *carica papaya.*

The Preparations of asimina triloba are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *eight parts* of the seeds. Run the seeds (shell and kernel) through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and moisten with hot water (112° F.), and firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient distilled water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '835, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '835, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-eight parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ASPARAGUS OFFICINALIS. (*as-par'a-gus of-fic-i-na'lis.*)

NAT. ORDER, Liliceæ.
VULG., Asparagus.

This plant is a native of Europe, and is cultivated in the gardens as an article of diet both in that country and in this. The *fresh* young shoots are the medicinal parts of the plant.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the shoots of the young plant. Bruise the shoots (in a mortar) to a pulp, then express and strain off the fluid portion, add alcohol (sp. gr. '835) until the menstruum thus prepared has the sp. gr. '941; then transfer the disintegrated shoots to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol (sp. gr. '941) that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the young shoots.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ASPERULA ODORATA. (*as'per-u-la o-do-ra'ta.*)

NAT. ORDER, Rubiaceæ.
SYN., Galium odoratum, Hepatica stellata (?).
VULG., Sweet-scented woodroof, Woodrowel.

This plant, a perennial, is indigenous to Africa, Asia and Europe. It thrives luxuriantly on hillsides, and in mountainous regions, in shady places.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run plant through drug mill, reduce to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ASTERIAS RUBENS. (*as-ter'i-as ru'bens.*)

CLASS, Echiniodermata.
ORDER, Asteroidea.
FAMILY, Asteriadæ.
VULG., Star fish.

This marine animal is found in both American and European waters.

The Preparations of this animal matter are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *ten parts* of alcohol, sp. gr. '835, and *one part* of the disintegrated *fresh* tissue. Transfer the animal matter to a suitable vessel, add the alcohol and macerate for seven days; express and filter.

The *drug power* of this tincture is 10 per cent; or, each minim contains the medicinal properties of *one-tenth grain* of the disintegrated tissue.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '835, *one part* of tincture; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ATHAMANTA OREOSELINUM. (*ath-a-man'ta o-reo-se-li'num.*)

NAT. ORDER, Umbelliferæ.

SYN., Apium montanum, Oreoselinum, Peucedanum oreoselinum.

VULG., Galbanum (?), Black mountain parsley, Speedwell (?).

This plant, a biennial, is a native of Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried plant (root, stalk, leaves and seeds). Run the several parts of the plant through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with hot water (112° F.), and firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to drive the balance of the menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried (whole) plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ATRIPLEX OLIDUM. (*a-trip'lex o-li'dum.*)

NAT. ORDER, Chenopodiaceæ.

SYN., Chenopodium fœtidum, C. olidum, C. vulvaria.

VULG., Stinking goose-foot, Stinking orache.

This plant is an indigene of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried plant. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ATROPINUM. (*at-ro-pi'num.*)

SYN., Atropia, Atropina, Atropium, Belladonnin.
VULG., Atropin, Atropine.

Formula.—$C^{17} H^{23} NO^{3}$; 289.

This alkaloidal salt is prepared from *atropa belladonna* by treating the finely powdered root (atropia is found also in the leaves) with alcohol, acidulating the concentrated tincture with diluted sulphuric acid, and then agitating it first with a solution of carbonate of potassium and then with chloroform. The latter substance being partly recovered by distillation, the atropia is then dissolved in hot spirits, and after being digested with animal charcoal, is filtered and set aside to await crystallization. The crystals are both colorless and odorless, of acicular form, and possess an acrid, bitter taste. Atropine * is sparingly soluble in water (59° F.), but is readily soluble in alcohol.

Tests.—An alcoholic solution of atropia treated with a solution of perchloride of gold yields a yellow precipitate. A solution treated with strong nitric acid changes first to an orange-red (containing morphine the color is brighter red and more permanent), and then fading becomes colorless. Atropia being apparently identical with daturia (the alkaloid of *datura stramonium*), may be distinguished therefrom by treating the solution with *platanic chloride;* this precipitates the atropia salts but does not produce a precipitate in a solution of *daturia.* The reverse, however, is alleged to occur when the solutions are treated with *picric acid.*

The Preparations of atropia are the decimal and centesimal triturations. Besides these, there is an oleate of atropia.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of atropine. Deposit the alkaloid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes;

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* "Atropine and its salts are decomposed and rendered inert by prolonged contact with potassa or soda, and, if heated with either of them, evolve vapor of ammonia."—*U. S. Pharm.*

add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of atropine. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Oleate.—In *ninety-nine parts* of oleic acid dissolve *one part* of atropine. Triturate the salt with a few drops of alcohol, in a mortar, and gradually add the oleic acid.

ATROPINUM SULPHURICUM. (*at-ro-pi'num sul-phur'i-cum.*)

SYN., Atropiæ sulphas.

VULG., Sulphate of atropia.

Formula.—$2C^{17} H^{23}NO^{3} H^{2} SO^{4}$; 676.

This salt is formed by dissolving atropia in ether, and treating the ethereal solution with a limited quantity of alcohol acidulated with sulphuric acid. Sulphate of atropia is deposited in the form of a white crystalline powder, which is readily dissipated by heat and is exceedingly soluble in both alcohol and water.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphate, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AURUM. (*au'rum.*)

SYN., Aurum metallicum, Aurum foliatum.

VULG., Gold.

Formula.—Au; 196.7.

The Preparations of this metal* are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of gold leaf.† Deposit the metal in a porcelain mortar, and add three parts of coarse milk sugar and steadily triturate for twenty minutes; add three parts more of fine milk sugar and again triturate for twenty minutes; then add balance of milk sugar (fine) and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

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* In the Report of *The Bureau of Materia Medica, Pharmacy and Provings* to the AMERICAN INSTITUTE OF HOMŒOPATHY (1880), Dr. J. Edward Smith is credited with having given Witte's formula for securing the finely precipitated metal, which is as follows: "Sixteen grains of gold were dissolved in nitro-muriatic acid; to this solution sixteen pints of distilled water were added. Six grains of phosphorus were dissolved in twelve fluidounces of ether. The two solutions were mixed together."

Dr. Smith further says: "To separate the gold a solution of aluminum chloride was first added, then aqua ammonia in excess. The action of the ammonia caused the formation of aluminum hydrate, which, when filtered out, retained the particles of gold." * * * * "The aluminum hydrate was now dissolved out with muriatic acid, the solution passing through the filter and leaving the gold, which was then thoroughly washed with alcohol to dissolve out any phosphorus, and then with distilled water until nothing but pure gold in fine particles was left upon the filter."

† The best quality of gold leaf is nearly, if not wholly, pure. *Absolutely* pure gold, in a finely divided state, may be obtained by treating a solution of chloride of gold with either ferrous chloride or sulphate, and boiling the precipitate with hydrochloric acid; subsequently, the precipitate is to be washed and dried.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AURUM MURIATICUM, (*au'rum mu-ri-at'i-cum.*)

SYN., Auric chloride, Auri chloridum.

VULG., Chloride of gold, Muriate of gold, Terchloride of gold.

Formula.—$Au\ Cl^3$; 302.4.

This salt is obtained by dissolving pure gold in nitro-muriatic acid, with the aid of heat, and evaporating the solution nearly to dryness. The salt, by constant stirring with a glass rod during the latter stages of evaporation, forms a deep orange-red crystalline mass, which is very soluble in water, alcohol and ether. Being exceedingly deliquescent, the salt should be kept in ground-stoppered bottles.

Tests.—A solution of chloride of gold treated with a diluted solution of stannous and stannic chloride, produces a precipitate known as *Purple of Cassius.*

The Preparations of this chloride are its solution, and its decimal and centesimal dilutions, and its decimal and centesimal triturations.

THE SOLUTION.—In *nine parts* of distilled water dissolve *one part* of chloride of gold. This solution in *drug power*, equals the first decimal *dilution.*

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '941, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '941, *ten parts* of the first decimal *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chloride. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen

minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the chloride. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AURUM ET NATRONATUM ARSENICUM. (*au'rum et na-tro-na'tum ar-sen'i-cum.*)

VULG., Arseniate of gold and soda, Arseniate of gold (?)

This salt is formed from a solution of chloride of gold ($Au Cl^3$; 302.4) and chloride of sodium ($Na Cl$; 58.4); to which double solution, arsenious acid is added. In *twelve parts* of nitro-muriatic acid dissolve, with the aid of heat, *four parts* of pure gold; evaporate to dryness and then dissolve in *sixteen parts* of distilled water. In *four parts* of distilled water dissolve, with the aid of heat, *one part* of dried common salt and *one-fifth part* of arsenious acid; mix the two solutions and again evaporate to dryness, stirring the resulting salt constantly until dry.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the arseniate of gold and soda. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the arseniate of gold and soda. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the arseniate, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AURUM ET NATRONATUM MURIATICUM. (*au'rum et na-tro-na'tum muri-at'i-cum.*)

SYN., Auri-sodic chloride, Auri et sodii chloridum, Auro-natrium chloratum, Aurum et sodæ chloridum, Chloro-aurate of soda.
VULG., Chloride of gold and soda.

This salt is formed from a solution of chloride of gold ($Au\ Cl^3$; 302.4) and chloride of sodium ($Na\ Cl$; 58.4). The double solution being evaporated to nearly dryness, and constantly stirred with a glass rod, yields a golden or orange-yellow crystalline mass, or, when set aside for crystallization, long, prismatic, golden-yellow crystals. Chloride of gold and soda is very soluble in water, and a 50 per cent solution may be prepared with alcohol.

Tests.—An aqueous solution of chloride of gold and soda treated with ferrous chloride or sulphate, yields a brown precipitate of *metallic gold.*

The Preparations of this double chloride are its solution and its decimal and centesimal dilutions, and its decimal and centesimal triturations.

THE SOLUTION.—In *nine parts* of distilled water dissolve *one part* of chloride of gold and soda. This solution, in *drug power*, equals the first decimal *dilution.*

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. ·941, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. ·835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. ·941, *ten parts* of the first decimal *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the double chloride. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the double chloride. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AURUM SULPHURATUM. (*au'rum sul-phur'a-tum.*)

SYN., Auric sulphide.

VULG., Sulphuretted gold, Sulphide of gold, Brown sulphuret of gold.

Sulphide of gold ($Au^2 S^3$) is precipitated from a solution of chloride of gold by passing sulphuretted hydrogen gas through it. The sulphide of gold is of a dark-brown color, and should be preserved in well-stoppered bottles.

The Preparations of the sulphide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts more* of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphide. Deposit the sulphide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

AVENA SATIVA. (*ave'na sa-ti'va.*)

NAT. ORDER, Graminaceæ.

VULG., Oat.

The Preparations of the common oat are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *eight parts* of avena sativa (oat unhusked). Run through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) carbonate of potas water* (5 per cent solution); macerate for three hours, and firmly pack in a conical percolator, and add alcohol, from time to time, until the percolate measures fourteen parts. Add sufficient water to force the balance of the menstruum downwards that the tincture shall equal *sixteen parts.*

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* *Avenin*, the active principle of the oat, is prepared by treating oatmeal with potas water, precipitating the active principle with acetic acid and washing it with alcohol.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of avena sativa.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '920, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '920, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

AZEDARACH. (*a-zed'a-rac.*)

NAT. ORDER, Meliaceæ.

VULG., Bead tree, Hop tree, Poison berry tree, Pride tree, Pride of China, Pride of India.

This tree is indigenous to the North of India. It is abundantly cultivated for ornamentation in the Southern States of North America.

The Preparations of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BADIAGA. (*bad-i-a'ga.*)

SYN., Spongia palustris, Spongilla fluviatilis.

VULG., Fresh water sponge, River sponge.

A habitat of Russian waters.

The Preparations of the fresh water sponge are the tincture, its decimal and centesimal dilutions, and its decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried sponge. Reduce the sponge to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried sponge.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the recently dried sponge. Deposit the sponge in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for fifteen minutes; add *three parts* more of fine milk sugar and again triturate for fifteen minutes; then add balance of milk sugar (fine) and triturate for thirty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the recently dried sponge. Deposit the sponge in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sponge, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BALSAMUM PERUVIANUM. (*baul'sa-mum pe-ru-vi-a'num.*)

SYN., Balsamum indicum nigrum.

VULG., Balsam of Peru, Quinquino.

This semi-fluid vegetable substance is procured from the *Myrospermum Peruiferum* (NAT. ORDER, *Leguminosæ*), a tree growing in Central America. Balsam of Peru is of a transparent, reddish-brown color, having a balsamic odor and a hot, spicy, acrid taste. Its specific gravity is 1.14 to 1.15.

The Preparations of this balsam are the decimal and centesimal dilutions, and the centesimal triturations.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the balsam; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the balsam; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the balsam. Deposit the balsam in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the balsam, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BALSAMUM TOLUTANUM. (*baul'sa-mum to-lu-ta'num.*)

VULG., Balsam of tolu.

This tenacious, translucent, yellowish-brown substance is obtained from the *Myrospernum Toluiferum* (NAT ORDER, *Leguminosæ*), a tree growing in Venezuela. This substance becomes brittle by age.

The Preparations of balsam of tolu are the alcoholic solution and its decimal and centesimal dilutions.

SOLUTION.—In *nine parts* of alcohol, sp. gr. '835, dissolve *one part* of balsam of tolu. In *drug power*, this solution equals the first decimal *dilution.*

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the first decimal *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BAPTISIA TINCTORIA. (*bap-te'sia tinc-to'ria.*)

NAT. ORDER, Leguminosæ.

SYN., Podalyria tinctoria, Sophora tinctoria.

VULG., Horsefly weed, Indigo broom, Indigo weed, Indigofera, Rattle bush, Wild indigo, Yellow broom.

This perennial is an indigene, and is found growing in all parts of the United States. The root of the plant is the part employed in medicine, although its active properties exist in both the stem and leaves.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations of its active principle, baptisin.* Besides these, there is an ointment of baptisia tinctoria.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the *recently* dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* with hot (112° F.) carbonate of potas water (5 per cent solution), and let stand for three hours; add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of baptisin. Deposit the active principle in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of baptisin. Deposit the active principle in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the baptisin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk

sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

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* The exact nature of this substance, baptisin, is at present unknown; hence, it is not classified either among the alkaloids, glucosides, or other well-known active principles.

Ointment.—To *eighty parts* of lard and *twenty parts* of wax, add *ten parts* of the root of baptisia tinctoria. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* with hot (112° F.) carbonate of potas water (5 per cent solution), and let stand for three hours; add the lard and wax, let simmer over a slow fire until the fat ceases sputtering, or until the water is evaporated. Drain off the ointment, filter, while hot, and occasionally stir until cold.

BAROSMA CRENATA. (*ba-ros'ma cre-na' ta.*)

NAT. ORDER, Rutaceæ.

SYN., B. crenulata, A. eckloniana, B. odorata, Baryosma odorata, Buchu crenata, Diosma crenata, D. crenulata, D. latifolia, D. odorata, Parapetalifera odorata.

VULG., Bookoo, Buchu, Buku.

This perennial shrub is indigenous to that portion of Southern Africa, lying immediately north of Cape Colony, known as the Hottentot country.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of buchu leaves. Run the leaves through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with equal parts of alcohol and hot water (112° F.) and *firmly* pack in a conical percolator. Add alcohol ('835), from time to time, until the percolate measures fourteen parts, then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BARYTA ACETICA. (*ba-ry'ta a-cet'e-ca.*)

SYN., Baric acetate, Barium acetate.

VULG., Acetate of barium.

Formula.—$Ba\ C^2\ H^3\ O^2$; 99^7.

The acetate of barium is obtained by dissolving in an earthenware evaporating dish, with the aid of heat, carbonate of barium in diluted acetic acid. The filtered liquid is evaporated to dryness and the resulting salt is to be preserved in well-stoppered bottles.

The Preparations of this salt are the decimal and centesimal triturations.

(See Baryta carbonica.)

BARYTA CARBONICA. (*ba-ry'ta car-bon'i-ca.*)

SYN., Baric carbonate, Barium carbonate.
VULG., Carbonate of barytes.
Formula.—Ba CO^3; 19.7.

Native carbonate of barium or *witherite*, is found in the lead mines of the North of England, in Scotland and in Sweden. It is artificially prepared by adding an alkaline carbonate (lime) to a solution of barium salt, or by fusing together a mixture composed of barium sulphate, carbon, and potash and subsequently treating the mass with water.

Tests.—Pure carbonate of barium is wholly soluble in hydrochloric acid, thus showing the absence of a *sulphate*. Treated with hydrosulphuric acid, *without* the deposit of a colored precipitate, shows the absence of the *metals*. Saturated with alcohol, the carbonate of barium may be distinguished from the *carbonate of strontia* by burning; the flame impregnated with the latter salt is of a *reddish* color.

The Preparations of the carbonate of barium are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the carbonate. Deposit the carbonate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the carbonate. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BARYTA CAUSTICA. (*ba-ry'ta caus'te-ca.*)

SYN., Baric oxide, Baryta oxidata, Protoxide of barium.
VULG., Caustic or pure barytes.

The Preparations of the protoxide of barium are the decimal and centesimal triturations.

(See Baryta carbonica.)

BARYTA IODATA. (*ba-ry'ta i-o-da'ta.*)

SYN., Baric iodide, Barii iodinum.
VULG., Iodide of barium.

Formula.—$Ba I^2 2H^2 O$; 427.

This salt is obtained from the decomposition of iodide of iron, with the aid of heat, in the presence of carbonate of barium. The fluid portion being decanted, it is evaporated to dryness; or, to a degree of density that crystallization may occur. The crystals deliquesce slightly, are exceedingly soluble in water, and the solution on exposure to atmospheric air is rapidly decomposed.

The Preparations of this salt are the decimal and centesimal triturations(?).

(See Baryta carbonica.)

BARYTA MURIATICA. (*ba-ry'ta mu-ri-at'i-ca.*)

SYN., Baric chloride, Barii chloridum, Barium chloride.
VULG., Chloride of barium.

This salt is prepared by dissolving carbonate of barium in diluted hydrochloric acid, and evaporating the solution that crystallization may occur. The crystals of chloride of barium are colorless and of a rhomboidal shape, usually in the form of lamellæ or plates.

Tests.—An aqueous solution containing 34.5 parts of the chloride should be perfect at 60° F. without a precipitate, thus showing the absence of a *carbonate* or *sulphate*.

The Preparations of the chloride are the decimal and centesimal triturations.

(See Baryta carbonica.)

BELLADONNA. (*bel-la-don'na.*)

NAT. ORDER, Solanaceæ.

SYN., Atropa belladonna, A. lethalis, Belladonna baccifera, B. trichotoma, Solanum furiosum, S. hortense, S. lethale, S. magus, S. maniacum, S. melanoceros, S. somniferum, S. sylvaticum.

VULG., Common dwale, Deadly nightshade.

This herbaceous perennial plant is a native of Europe. Leaves long kept *should not* be employed in pharmacy.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an ointment of belladonna.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the *recently* dried leaves. Reduce the leaves to a moderately fine powder, transfer to a suitable vessel, and *moisten* with hot (112° F.) alcohol, sp. gr.'9941, *firmly* pack in a conical percolator and add the alcohol, from time to time, until the percolate measures *fourteen parts;* then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *eighty parts* of lard and *twenty parts* of yellow wax, add *ten parts* of recently dried belladonna leaves. Run leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112° F.) alcohol, sp. gr. '941, and macerate for an hour or two; then melt the lard and wax, add the belladonna leaves and simmer over a moderately hot fire until the alcohol is driven off and the leaves rise to the top in a *crisp* state. Drain off the ointment, filter while hot and occasionally stir until cold.

BELLIS PERENNIS. (*bel'lis pe-ren'nis.*)

NAT. ORDER, Compositæ.

VULG., Bruise wort, Common daisy, Day's eye, English daisy, Garden daisy, Hen and chickens.

This perennial is a habitat of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered (whole) plant. Bruise thoroughly, in a mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BENZINUM NITRICUM. (*ben'zi-num ni'tri-cum.*)

SYN., Nitrobenzole, Nitrobenzule, Nitrobenzide, Nitrobenzine, Nitrobenzol.

VULG., Artificial oil of bitter almonds, Essence of mirbane.

Formula.—$C^6 H^5 NO^2$; 123.

This sweet, oily, yellowish liquid, possessing an odor resembling that of bitter almonds, is prepared from benzol through the reaction of fuming nitric acid. Its sp. gr. is 1'209; it crystallizes at a temperature of 37° F., and boils at 415° F.

The Preparations of nitrobenzol are its alcoholic solution and its subsequent decimal and centesimal dilutions.

SOLUTION.—To *nine parts* of alcohol, sp. gr. '835, add *one part* of nitrobenzol. This solution, in *drug power*, is equal to the first decimal *dilution*.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the first decimal *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BENZOIN. (*ben-zo'in.*)

NAT. ORDER, Lauraceæ.

SYN., Benzoin officinale, Laurus benzoin, Styrax benzoin.

VULG., Allspice bush, Benjamin bush, Benjamin tree, Fever wood, Gum benzoin, Spice berry, Spice bush, Spice wood, Wild allspice.

This is a resinous exudation from the bark of the tree *Styrax benzoin*, a native of Siam and Sumatra. Its sp. gr. is 1'063 to 1'092. The resin is exceedingly soluble in alcohol, the solution being rendered milky upon the addition of water.

The Preparations of this resin* are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. ·835, and *two parts* of benzoin (white, and yellowish-white tears). Reduce to a coarse powder, in a mortar, transfer to a suitable vessel and add the alcohol and macerate for seven days; filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of benzoin.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* of alcohol, sp. gr. ·835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ·835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. ·835, *eight parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

BERBERINUM. (*ber-ber-i'num.*)

SYN., Berberin, Berberia, Berberina, Berberine.

Formula.—$C^{20} H^{17} NO^{4}$.

This alkaloidal salt is of a beautiful golden-yellow color. It exists in several plants belonging to the NAT ORDER, *Berberidaceæ.* It is extracted by boiling the root with water and evaporating the liquid to a soft extract, digesting it in alcohol, and, after recovering the alcohol by distillation, treating the residue with diluted sulphuric acid. The resulting crystals (sulphate of berberia) are dissolved in boiling water and decomposed by freshly prepared oxide of lead; the solution is then filtered and evaporated, and set aside that the alkaloid may crystallize out.

Tests.—A hot alcoholic solution of any of the salts of berberina will, when treated with the iodo-compound (a solution of iodine and iodide of potassium), care being taken to avoid an excess of iodine, deposit a sediment which in appearance represent beautiful, brilliant, green spangles.

The Preparations of this alkaloid are the decimal and centesimal triturations.

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* Benzoin is frequently employed in pharmacy to prevent the oxidation of the fatty constituents of lard. Benzoinated lard is prepared in the following manner: To *sixteen parts* of freshly rendered lard add *one part* of powdered benzoin; heat them together over water bath for an hour or two, with occasional stirring, then strain through muslin and stir constantly until cold.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BERBERIS VULGARIS. (*ber'be-ris vul-ga'ris.*)

NAT. ORDER, Berberidaceæ.

SYN., B. canadensis, B. dumetorum, B. irritabilis, B. pisifera, B. serrulata, B. sinensis, Oxycantha, Spina acida.

VULG., Barberry, Pipperidge bush.

This shrub is an indigene of Europe. It is also a habitat of New England, and is cultivated as a lawn ornament. Its medicinal properties are due to the crystalline principle, *berberia.*

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with *hot alcohol;* firmly pack in a conical percolator and pour on the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BIDENS BIPINNATA. (*bi'dens bi-pin-na'ta.*)

NAT. ORDER, Asteraceæ.

VULG., Spanish needles.

This herbaceous annual is indigenous, growing in dry soils throughout the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root and seeds. Run root and seeds through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root and seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BISMUTHUM ET AMMONIUM CITRICUM. (*bis-mu'thum et am-mo'ni-um cit'ri-cum.*)

VULG., Citrate of bismuth and ammonium.

The *U. S. Pharmacopœia* (1882) contains the following formula: "Citrate of bismuth* *ten parts*, water of ammonia and distilled water, each, *a sufficient quantity.* Mix the citrate of bismuth with *twenty parts* of distilled water to a smooth paste, and gradually add water of ammonia until the salt is dissolved, and the liquid has a neutral or only faintly alkaline reaction.

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*CITRATE OF BISMUTH.—"Sub-nitrate of bismuth *ten parts*, citric acid *seven parts* and distilled water a *sufficient quantity.* Boil the sub-nitrate of bismuth and the citric acid with *forty parts* of distilled water, until a drop of the mixture yields a clear solution with water of ammonia. Then add *five hundred parts* of distilled water, allow the suspended matter to deposit, wash the precipitate (first by decantation, and afterward on a strainer), with distilled water, until the washings are tasteless, and dry the residue at a gentle heat."—*U. S. Pharm.*

Then filter the solution, evaporate it to a syrupy consistence, and spread it on plates of glass so that, on drying, the salt may be obtained in scales. Keep the product in small well-stopped vials, protected from the light.

Tests.—An aqueous solution of citrate of bismuth and ammonia boiled with a solution of potas, evolves vapor of ammonia. Treated with an equal volume of concentrated sulphuric acid a crystal of ferrous sulphate dropped into the mixture should not be surrounded with a brownish-black colored zone, thus showing the absence of a *nitrate.*

The Preparations of this salt are the decimal and centesimal triturations. Besides these, there is an elixir of bismuth. (See Paragraph 288, Part I.)

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the citrate. Deposit the citrate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes, add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the citrate. Deposit the citrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BISMUTHUM OXYDATUM. (*bis-mu'thum ox-y-da'tum.*)

SYN., Bismuthi oxidum.

VULG., Hydrated oxide of bismuth, Sesqui-oxide of bismuth, Oxide of bismuth.

Formula.—$Bi^2 O^3$; 468.

The oxide of bismuth is prepared by decomposing the subnitrate of bismuth with soda. The bismuth is boiled in a solution of soda, and, being then set aside the solution (nitrate of sodium) is decanted and the precipitate (oxide of bismuth) is thoroughly washed with distilled water.

The Preparations of the oxide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oxide. Deposit the oxide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oxide. Deposit the oxide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BISMUTHUM SUBCARBONICUM. (*bis-mu'thum sub-car-bon'i-cum.*)

SYN., Bismuthi oxycarbonas, Bismuthi carbonas.
VULG., Subcarbonate of bismuth.
Formula.—$(BiO)^2 CO^3 H^2 O$; 530.

This preparation is obtained by treating a solution of nitrate of bismuth with a solution of carbonate of soda.

Tests.—In an earthenware evaporating dish, boil fifteen grains (1 Gm.) of the subcarbonate of bismuth in three fluidrachms of (11 C. c.) strong solution of soda (sp. gr. 1·260). Decant a portion of the liquid into a test tube, and add a few small pieces of pure granulated zinc; lightly plug the open end of the test tube with cotton, and cap with white filter-paper moistened with a solution of nitrate of silver. If *arsenic* be present it will be reduced to arsenicum. On carefully heating the tube, and uniting with the hydrogen, forming arseniuretted hydrogen, it will show in the production of a purplish-black spot on the silver paper forming the cap.

The Preparations of the subcarbonate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine* *parts* of milk sugar *one part* of the subcarbonate. Deposit the subcarbonate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the subcarbonate. Deposit the subcarbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BISMUTHUM SUBNITRICUM. (*bis-mu'thum sub-ni'tri-cum*).

SYN., Album hispanicum, Bismuthum album, Bismuthum magisterium, Bismuthum nitricum, Bismuthi subnitras, Magisterium bismuthum, Marcassita alba.

VULG., Pearl white, Subnitrate of bismuth, White oxide of bismuth.

Formula.—Bi ONO^3 H^2 O; 306.

This preparation is obtained by first digesting, for twenty-four hours, bismuth in diluted nitric acid. A strong aqueous solution of carbonate of soda is then slowly added and the resulting precipitate is thoroughly washed and re-dissolved with the aid of heat, in strong nitric acid; this solution when cold is then further treated with small portions of distilled water until a permanent milkiness is produced, when it is again set aside for twenty-four hours and then filtered. The liquid is now further diluted with distilled water, and lastly is treated with water of ammonia.

Tests.—To identify a bismuth salt, add to a boiling solution of iodide of lead (slightly acidified with acetic acid) a small quantity of the liquid or powder supposed to contain bismuth and set aside to cool. If a bismuth salt is present the solution and resulting precipitate will change to a dark orange or a crimson color, according to the quantity of the bismuth present.

The Preparations of the subnitrate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the subnitrate. Deposit the subnitrate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the subnitrate. Deposit the subnitrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BISMUTHUM VALERIANICUM. (*bis-mu'thum va-le-ri-an' i-cum.*)

SYN., Bismuthi valerianas.
VULG., Valerianate of bismuth.

This salt is formed by double decomposition. Pure metallic bismuth being dissolved in nitric acid is treated with carbonate of soda; the resulting precipitate is washed with distilled water and re-dissolved in nitric acid, and is further treated with a solution of valerianate of soda so long as a precipitate falls. This precipitate is valerianate of bismuth; it is collected on a filter, is well washed with distilled water and is then dried.

The Preparations of the valerianate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the valerianate. Deposit the valerianate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the valerianate. Deposit the valerianate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BLATTA AMERICANA. (*blat'ta a-mer-i-can'a.*)

SYN., Kakealat Americana.
CLASS, Insecta.
ORDER, Orthoptera.
FAMILY, Blattina.
VULG., American cockroach.

The Preparations* of the insect are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the (chloroformed) insects. Deposit the insects in a porcelain mortar, and add three parts of coarse milk sugar and steadily triturate for twenty minutes; add three parts more of fine milk sugar and again triturate for fifteen minutes; then add balance of milk sugar (fine) and triturate for fifteen minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BOLETUS LARICIS. (*bo-le'tus lar'i-cis.*)

NAT. ORDER, Fungi.
SYN., Agaracus laricis, Agaracus albus, Boletus purgans, Fungus laricis, Polyporus officinalis.
VULG., Larch agaric, Larch boletus, Purging agaric, White agaric.

This fungus is found on the larch-tree in Europe, Asia and America. It is also found on the Canadian larch in Canada.

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* To secure and properly prepare the living insects for medicinal use, See Apis mellifica, p. 203, Part II.

The Preparations of this fungus are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the dried white agaric. Bruise the fungus by repeatingly pounding it, disintegrate it, transfer to a suitable vessel and moisten with hot (112° F.) water and allow it to stand for three hours, add alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried fungus.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BOLETUS SATANAS. (*bo-le'tus sa-tan'as.*)

NAT. ORDER, Fungi.
SYN., Satanic boletus.
VULG., Satan's fungus.

The Preparations of this fungus are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration* it requires to *nine parts* of milk sugar *one part* of the *fresh* fungus. Deposit the fungus in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for twenty minutes; add *three parts* more of fine milk sugar and again triturate for fifteen minutes; then add balance of milk sugar (fine) and triturate for fifteen minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the *fresh* fungus. Deposit the fungus in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the fungus, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

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*First introduce the fungus into the mortar, break and disintegrate it, then add the first portion of milk sugar (coarse) and triturate for twenty minutes. Run this portion through a moderately fine sieve, further reduce if necessary, and then proceed as directed above. These directions are applicable to both the first decimal and first centesimal triturations.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BORAGO OFFICINALIS. (*bo-ra'go of-fic-i-na'lis.*)

NAT. ORDER, Borraginaceæ.

VULG., Bugloss, Burrage, Cultivated borage.

This annual, a succulent plant, is a native of Europe. Its medicinal properties are alleged to be wholly due to nitrate of potassa, etc., contained within the stem and leaves.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently *dried* leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BOTHROPS LANCEOLATUS. (*bo'throps lan-ce-o-la'tus.*)

CLASS. Reptilia.

ORDER, Ophidia.

FAMILY, Crotalina.

SYN., Coluber glaucus, C. mægara, Cophias lanceolatus, Craspedocephalus lanceolatus, Triconocephalus lanceolatus, Vipera cærulescens, V. lanceolata, V. mægara.

VULG., Javelin snake, Yellow serpent of Antilles, Yellow viper of Martinique.

The Preparations of the venom of this reptile are the decimal and centesimal triturations.

BOVISTA. (*bo-vis'ta.*)

NAT. ORDER, Fungi.

SYN., B. nigrescens, B. officinalis, Crepitus lupi, Fungus chirurgorum,

F. ovatus, Lycoperdon bovista, L. areolatum, L. cælatum, L. gemmatum, L. globosum.

VULG., Bull-fist, Bunt, Devil's snuff-box, Fuzz-ball, Puck-ball, Puffin, Puff-ball, Warted puff-ball.

This fungus is common to all dry meadows and pasture grounds, throughout Europe and America.

The Preparations of this fungus are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of the disintegrated puff-ball. Tear the fungus into small pieces, or cut with a pair of sharp scissors, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add a sufficient quantity of alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the disintegrated fungus.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the inner portion of the fungus. Deposit the puff-ball in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for twenty minutes; add *three parts* more of fine milk sugar and again triturate for fifteen minutes; then add balance of milk sugar (fine) and triturate for fifteen minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BROMIUM. (*bro'mi-um.*)

SYN., Brominium, Murina.

VULG., Bromine.

This non-metallic substance is obtained by decomposing the refuse liquor of salt works. The liquor, together with black oxide of manganese and hydrochloric acid, is heated to 122° F., and chlorine gas is made to pass through it; the bromides of calcium and magnesium, usually found held in solution, are thus decomposed. The bromine being volatile, is conducted into a proper receiver and is condensed. Its sp. gr. at 60° F., is 2.97.

Tests.—Bromine added to a solution of soda, may be tested for the presence of iodine by adding a cold solution of starch; *iodide of starch* being produced if iodine is present.

The Preparations of bromine are the centesimal dilutions.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of distilled water, *one part* of bromine; the *second centesimal* dilution, to *ninety-nine* parts of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BRUCEA ANTIDYSENTERICA. (*broo'cia anti-dys-en-ter'i-ca.*)

NAT. ORDER, Loganiaceæ.
SYN., Angustura spuria, Brucia ferruginea.
VULG., False angustura.

This is the bark of a tree, one of the species of the *strychnos*, a native of the East Indies.

The Preparations of this bark are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *two parts* of the dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate seven days; then add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution

BRUCINUM. (*broo'ci-num.*)

SYN., Brucia.
VULG., Brucin.

Formula.—$C^{23} H^{26} N^{2} O^{4}. 4 H^{2} O.$

This alkaloidal salt is one accompanying strychnia, both in the seeds of the *strychnos nux vomica* and the beans of the *strychnos ignatia.* It is also obtained from the *false angustura* bark.

Tests.—An alcoholic solution of brucia treated with a few drops of nitric acid, produces as with strychnia an intense *red color.* Further treated with stannous chloride, hyposulphite of sodium, or sulphydrate of sodium the red coloration changes to either a *beautiful violet* or *green color.* The (red) solution of morphia is *discolored* by those reagents.

The Preparations of brucia are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alkaloid. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BRYONIA ALBA. (*bry-o'nia al'ba.*)

NAT. ORDER, Cucurbitaceæ.

SYN., B. vera, Uva angina, U. serpentina, Vitis alba, V. nigra.

VULG., Black-berried bryony, Black-berried white bryony, White bryony, Wild hops.

This herbaceous climbing plant is a perennial, a habitat of Europe, growing quite common in both France and Germany.

The Preparations of this plant are the tincture of the root and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water, and add the alcohol and macerate for fourteen days; then add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

BUFO. (*bu'fo.*)

ORDER, Anura.
CLASS, Amphibia.
FAMILY, Bufonidæ.
SYN., Bufo cinereus, B. vaiabilis, B. vulgaris, Rana bufo.
VULG., Toad.

The Preparations of this animal matter are the decimal triturations.*

TRITURATIONS.—To prepare the *fourth decimal* trituration it requires to *nine parts* of milk sugar *one part* of the third decimal. Deposit the third decimal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

BUFO SAHYTIENSIS. (*bu'fo sa-hy'ti-en-sis.*)

ORDER, Anura.
CLASS, Amphibia.
FAMILY, Bufonidæ.
SYN., Bufo agua.
VULG., South America toad.

The Preparations of this animal matter are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the saliva. Deposit the saliva in a porcelain mortar,

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*Dr. W. Schwabe (*Pharmacopœia Homœopathia Polygotta*), says: "The live animal is fastened to a slab of cork by four strong pins stuck through the webs of the feet. Then the poles of an induction apparatus in action are slowly drawn over the back of the animal, whereupon very soon the poison issues from the dorsal glands. This is removed with a small horn knife, and triturated * * * * * in the proportion of one to one thousand parts of sugar of milk (3d decimal trituration)."

and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the saliva, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

BUXUS SEMPERVIRENS. (*bux'us sem-per'vi-rens.*)

NAT. ORDER, Euphorbiaceæ.
VULG., Box.

This evergreen shrub is an indigene of Europe and Western Asia.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *six parts* of the recently gathered leaves. Bruise the leaves in a mortar, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently gathered leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. ·941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ·941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. ·941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ·941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

CACAO. (*ca'ca-o.*)

NAT. ORDER, Sterculiaceæ.
SYN., Theobroma cacao.
VULG., Cacao, Cocoa.

The *Theobroma cacao,* or chocolate tree is a native of tropical America. The seeds[*] of the fruit are the parts employed in pharmacy.

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[*] The active principle, *theobromin,* which is analogous to caffein, is obtained from the seeds by exhausting them in water, treating the strained infusion with acetate of lead, and filtering it, and then treating it with sulphuretted hydrogen and evaporating it. Boiling alcohol is then added, and the liquid is filtered while hot. The theobromin deposits on cooling, and is made colorless on repeated crystallization.

The Preparations of cacao are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the cacao seeds. Deposit the seeds in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for twenty minutes; add *three parts* more of fine milk sugar and again triturate for twenty minutes; then add balance of milk sugar (fine) and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CACTUS GRANDIFLORUS. (*cac'tus gran-de-flo'rus.*)

NAT. ORDER, Cactaceæ.
SYN., Cereus grandiflorus.
VULG., Night-blooming cereus.

This flowering plant is a habitat of Mexico. It is also extensively cultivated in the conservatories of this country.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the fresh flowers and young stems. Bruise these portions of the plant, express and strain, and add alcohol, sp. gr. '835, until the sp. gr. of the *mixture* is '941; then add sufficient alcohol, sp. gr. '941, until the mixture measures sixteen parts. Transfer the plant to a suitable vessel and add the menstruum and macerate for fourteen days; then express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the *fresh* plant.

DILUTIONS—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CADMIUM IODINUM. (*cad-mi'um i-o-di'num.*)

VULG., Iodide of cadmium.

Formula.—Cd I^2; 376.

This salt is formed by digesting in water metallic cadmium, and iodine.

The Preparations of this salt are the decimal and centesimal triturations. Besides these, there is an ointment of iodide of cadmium.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide. Deposit the iodide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts more* of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *seventy five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of iodide of cadmium. Reduce the iodide to a fine powder, moisten with water and rub to a smooth paste; melt the lard and wax (90 parts of simple ointment) and when *cold*, gradually incorporate the iodide of cadmium.

CADMIUM SULPHURICUM. (*cad-mi'um sul-phu'ri-cum.*)

SYN., Cadmic sulphate, Cadmic sulphas.

VULG., Sulphate of cadmium.

Formula.—3 Cd SO^4 8 H^2 O; 768.

This salt is formed by decomposing nitrate of cadmium with carbonate of soda. The resulting carbonate of cadmium is then treated with dilute sulphuric acid forming the sulphate; the solution is concentrated and the sulphate crystallizes out in oblique rhomboidal prisms.

The Preparations of the sulphate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar, *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CAFFEIN. (*caf'fe-in.*)

SYN., Caffeia.

VULG., Caffeine.

Formula.—$C^8 H^{10} N^4 O^2, H^2 O$; 212.

Caffeine occurs in the dried berries of *coffea Arabica*, in proportion of .55 to 2 per cent. The green coffee berries are first ground, then treated with boiling water, and subsequently (the watery infusion) with acetate of lead. The latter salt being decomposed by sulphuretted hydrogen, the solution is then evaporated to a small bulk and the caffeine precipitated by a solution of carbonate of potassium, or ammonium. Caffeine crystallizes in colorless, soft, silky, needle-like crystals which are soluble in 75 parts of water and in 35 parts of alcohol, at 59° F.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of caffeine. Deposit the caffeine in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar

one part of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of caffeine. Deposit the caffeine in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CAINCA. (*ca-in'ca.*)

NAT. ORDER, Rubiaceæ.
SYN., Cahinca, Chicocaa racemosa, Serpentaria brasiliana.
VULG., Cluster-flowered snow berry, David's root.

This shrub, named by the native Portuguese "*raiz pretta,*' or black root, is a habitat of Brazil.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CALADIUM SEGUINUM. (*ca-la'di-um se-gy'num.*)

NAT. ORDER, Araceæ.
SYN., Arum seguinum.
VULG., Dumb cane, Poison arum, Poisonous American arum, Poisonous pediveau.

This plant is indigenous to South America, growing abundantly in wet marshy places, along the Surinam river, in the vicinity of Paramaribo. The plant is also an habitat of India.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of *recently* dried root. Disintegrate the root, reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water, and when cool add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CALCAREA ARSENICOSUM. (*cal-ca'rea ar-sen-i-co'sum.*)

SYN., Calcarea arsenica, Calcic arsenias, Tricalcic diarseniate.

VULG., Arseniate of lime.

Formula.—$Ca^3 2 As O^4$.

This salt is formed by decomposing arsenite of potassium* (in solution), by gradually adding a solution of calcic chloride to it as long as a precipitate is formed. The liquid is to be decanted, and the precipitate washed and dried.

The Preparations of the arseniate of lime are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the arseniate. Deposit the arseniate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the arseniate. Deposit the arseniate in a porcelain mortar, and divide

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*Arsenite of potassium is prepared by boiling, in a glass vessel, arsenious acid *sixty-four grains*, and carbonate of potassa *ninety-six grains*, in *ten or twelve* fluidounces of distilled water until the acid is dissolved. When cold, the distilled water is to be further added to the solution that it shall equal *sixteen fluidounces.*

the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CALCAREA CARBONICA. (*cal-ca'rea car-bon'i-ca.*)

SYN., Calcic carbonate, calcii carbonas, calcium carbonate, Testæ ostreæ.

VULG., Carbonate of lime, Oyster shell.

Formula.—Ca Co^3; 100.

This preparation is the soft, inner portion of the oyster shell. The shells are made thoroughly clean, and the thicker parts are then broken, in an iron mortar, into small pieces. The hard, dense portions of the shells are removed, and the remainder are triturated in a small quantity of distilled water; a greater quantity of distilled water is now added and the whole is left at rest, for a few minutes, that the heavier particles may subside; the supernatant liquor is then decanted, while yet turbid, and is filtered through paper. This dried *filtrate*, is the part employed in pharmacy.

The Preparations of the carbonate of lime are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the carbonate of lime. Deposit the lime in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the carbonate of lime. Deposit the lime in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the lime, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CALCAREA CAUSTICA (?).* (*cal-ca'rea caus'ti-ca.*)

SYN., Calcic hydrate, Calcis hydrate.
VULG., Slaked lime.

Formula.—$Ca\,2\,HO$; 74.

The Preparation of calcarea hydrata is known under the name of *liquor calcis* or lime water.

SOLUTION.—Add to *one hundred parts* of distilled water *one part* of hydrate of calcium. Or, add to *one gallon* of distilled water a *Troy ounce or two* of caustic lime. Place the lime in the vessel and add sufficient water to cover it; when slaked, add the balance of distilled water and carefully protect the mixture from the air.

CALCAREA CHLORATA. (*cal-ca'rea chlo-ra'ta.*)

SYN., Calcium chloride (?), Calcii chloridum (?), Calx chlorata, Calx chlorinata.

VULG., Chloride of lime (?), Chlorinated lime, Bleaching powder, Hypochlorite of calcium.

This product, which is a compound of hypochlorite ($Ca\,Cl^2\,O^2$) and chloride of calcium ($Ca\,Cl^2$), is not to be confounded, under the name of *chloride of lime,* with calcarea muriatica. This preparation of lime is simply the damp hydrate saturated with chlorine gas, and is commonly used as a disinfectant, and also for bleaching purposes.

The Preparations† of the chlorinated lime are the solution and its decimal and centesimal dilutions.

SOLUTION.—To *ten parts* of distilled water add *one part* of chlorinated lime.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* distilled water, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of distilled water, *ten parts* of the first decimal *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CALCAREA HYPOPHOSPHOROSA. (*cal-ca'rea hy-po-phos-phor-o'sa.*)

SYN., Calcic hypophosphite, Calcii hypophosphis, Calcis hypophosphis.
VULG., Hypophosphite of lime.

Formula.—$Ca\,2\,PH^2\,O^2$; 170.

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* Caustic lime, or quicklime, (oxide of calcium) ($Ca\,O$) is freshly burnt lime or lime that is *unslaked.* Hydrate of lime calcium hydrata ($Ca\,2\,HO$), is lime that *is* slaked.

† The exact *drug power* of these several preparations of chlorinated lime is undetermined.

This salt of lime is prepared by boiling together phosphorus and lime with water. The phosphoretted hydrogen being evolved the solution is filtered and the excess of lime is removed by carbonic acid gas.

Tests.—A solution of the hypophosphite of lime should not yield a precipitate when treated with a solution of chloride of barium, thus showing the absence of both *phosphates* and *phosphites*. Treated with ammonium molybdate the solution of hypophosphite of lime yields a *blue* colored precipitate which changes to a *yellow*, if the solution also contains a phosphate.

The Preparations of the hypophosphite are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the hypophosphite. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add ballance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the hypophosphite. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CALCAREA IODATA. (*cal-ca'rea i-o-da'ta.*)

SYN., Calcarea hydriodica, Calcic iodide, Calcium iodatum.

VULG., Iodide of calcium, Iodide of lime.

Formula.—$Ca\,I^2$; 294.

This salt is prepared by digesting iodine with iron in distilled water; thus forming a solution of ferrous iodide, which is subsequently boiled with milk of lime and afterward filtered and evaporated. The salt is exceedingly deliquescent, and is soluble in both alcohol and water.

The Preparations of the iodide are its solution and the decimal and centesimal dilutions.

Solution.—In *nine parts* of alcohol, sp. gr. '835, dissolve *one part* of the iodide. The *drug power* of this *solution* is 10 per cent; or, each minim contains the medicinal properties of *one-tenth grain* of the iodide of lime.

Dilutions.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the first decimal *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CALCAREA MURIATICA. (*cal-ca'rea mu-ri-at'i-ca.*)

SYN., Calcic chloride, Calcii chloridum.

VULG., Chloride of calcium, Chloride of lime, Muriate of lime.

Formula.—Ca Cl^2; 111.

The salt, chloride of calcium, is obtained by adding to pure hydrochloric acid white marble (carbonate of lime) so long as any effervescence continues. The solution is then boiled and afterward filtered, and finally is evaporated to a syrupy consistency and set aside that crystallization may occur. Or, the solution may be evaporated to dryness and the residue strongly heated when the chloride will assume the porous form, or that form which is used for drying gases.

Tests.—A 10 per cent aqueous solution when treated with a solution of ferrocyanide of potassium should not yield a *blue* colored precipitate, thus showing the presence of *iron;* or, a precipitate when treated with lime water, thus showing the presence of a *carbonate;* or, with calcium chloride, thus showing the presence of a *sulphate.* Furthermore, the salt when treated with hydrochloric acid should not evolve an odor of chlorine, thus showing the presence of *hypochlorites.*

The Preparations of this salt are its solution and the decimal and centesimal dilutions.

Solution.—In *nine parts* of distilled water dissolve *one part* of the chloride. The *drug power* of this *solution* is 10 per cent; or, each minim contains the medicinal properties of *one-tenth grain* of the salt.

Dilutions.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '941, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '941, *ten parts* of the first decimal *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

CALCAREA OXALICA. (*cal-ca'rea ox-al'i-ca.*)

SYN., Calcii oxalas, Calcium oxalicum.

VULG., Oxalate of calcium, Oxalate of lime.

Formula.—Ca O. $C^2 O^3$; 64.

This salt is readily obtained by adding to a strong solution of oxalic acid any solution of a lime salt. Oxalate of lime is readily soluble in nitric acid.

The Preparations of the oxalate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oxalate. Deposit the oxalate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oxalate. Deposit the oxalate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CALCAREA PHOSPHORICA. (*cal-ca'rea phos-phor'i-ca.*)

SYN., Calcic phosphate, Calcii phosphas, Calcis phosphas.

Vulg., Phosphate of lime.

Formula.—Ca^3 2 PO^4; 310.

This salt is prepared by digesting bone-ash in hydrochloric acid. The solution is diluted with distilled water filtered, and boiled, and is then treated with ammonia. Dr. Hering is alleged to have used phosphate of lime prepared by treating lime water with small and oft repeated additions of phosphoric acid; the precipitate was washed with distilled water and subsequently dried.

The Preparations of the phosphate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the phosphate. Deposit the phosphate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate. Deposit the phosphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CALCAREA SULPHURICA. (*cal-ca'rea sul-phur'i-ca.*)

SYN., Calcic sulphate, Calcii sulphas.

VULG., Gypsum, Plaster of Paris, Sulphate of calcium, Sulphate of lime.

Formula.—$Ca\ So^4$. $2\ H^2\ O$; 172.

The Preparations of the sulphate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CALENDULA OFFICINALIS. (*ca-len'du-la of-fic-i-na'lis.*)

NAT. ORDER, Compositæ.

SYN., Caltha officinalis, C. sativa, C. vulgaris, Flos omnium mensium, Solsequium, aureum, Solis sponsa, Verrucaria.

VULG., French marigold, Garden marigold, Marigold.

This plant, an annual, is a habitat of Southern Europe. The particular species employed in pharmacy, is the one known in Germany as "*golkblume.*"

The Preparations* of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an ointment of calendula.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of recently dried calendula flowers. Run the flowers through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water and firmly pack in a conical percolator. Add the alcohol from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried flowers.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *eighty parts* of lard and *twenty parts* of yellow wax take *ten parts* of recently dried calendula flowers. Run flowers through drug mill, reduce to a coarse powder, transfer to a suitable vessel, *moisten* with hot alcohol, sp. gr. '920, and macerate for an hour or two; then melt the lard and wax, and add the calendula flowers and simmer over a moderately hot fire until the alcohol is driven off and the flowers rise to the top in a *crisp* state. Drain off the ointment, filter while hot, and stir occasionally until cold.

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* A strong solution of isinglass, incorporated with an aqueous extract of either arnica or calendula, in proportions of *one part* of the latter to *four parts* of the former constitutes the remedial agent for the topical application known as *court plaster.*

CALTHA PALUSTRIS. (*cal'tha pa-lus'tris.*)

NAT. ORDER, Ranunculaceæ.

SYN., Caltha Arctica.

VULG., Cowslip, Marsh marigold.

This plant is common to both Europe and America. It grows in low marshy places.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr '941, and *four parts* of the recently dried plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CAMPHORA. (*cam-phor'a.*)

NAT. ORDER, Lauraceæ.

SYN., C. officinarum, Cinnamomum camphor, C. glanduliferum, C. inunctum, Dryobalanops aromatica, D. camphora, Laurus camphor, Pterygium teres.

VULG., Borneo camphor, Camphor.

Formula.—$C^{10} H^{16} O$; 152.

This resinous concrete white substance is from the evergreen *camphora officinarum*, a native of Eastern Asia. The granular masses of crude camphor as produced from the leaves, twigs, and wood, by the natives, through a process of sublimation, is unfit for medicinal purposes and, therefore, is refined in this country. Gum camphor has a sp. gr. varying from '985 to '996. It is soluble in alcohol, sp. gr. '835, to the extent of 75 per cent.

The Preparations of the gum are the tincture and its decimal and centesimal dilutions. Besides these, there is an oleaginous preparation termed camphorated oil.*

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*CAMPHORATED OIL.—In *twelve parts* of almond, cotton-seed, or olive oil, dissolve *three parts* of gum camphor. Reduce the camphor into small fragments and add to the oil and dissolve by occasional agitation.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *eight parts* of gum camphor. Reduce the camphor into small fragments, transfer to a suitable vessel, and add the alcohol and dissolve by occasional agitation.

The *drug power* of this tincture is 50 per cent, or, each minim contains the medicinal properties of *one-half grain* of gum camphor.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '835, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '835, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CAMPHORA MONOBROMATA. (*cam-phor'a mo-no-bro'ma-ta.*)

VULG., Monobrom-camphor, Monobromide of camphor.

Formula.—$C^{10} H^{15} Br O$; 230.8.

This salt is prepared by heating bromine with camphor. Recrystallized, the salt occurs in a purified state in beautiful white prisms.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the monobromide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the monobromide. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CANCER ASTACUS. (*can'cer as'ta-cus.*)

ORDER, Decapoda.
CLASS, Crustacea.
FAMILY, Astacidæ.
VULG., Crawfish, Crayfish, River-crab.

The Preparations of this animal matter are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *eight parts* of the animal tissues. Bruise the animal matter in a Wedgewood mortar, and reduce to a paste; transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the animal matter.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '835, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '835, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CANCHALAGUA. (*can-chal-a'gwa.*)

NAT. ORDER, Gentianaceæ.
SYN., Chironia chilensis, Erythræa chilensis, Erythræa chironiodes.
VULG., Centaury of Chili.

This plant is indigenous to Chili.*

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

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* This plant is *not* the *sabbatia angularis* or *erythræa venusta* of the United States. It is closely allied thereto, possessing similar properties, but is another species of erythræa.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CANELLA ALBA. (*ca-nel'la al'ba.*)

NAT. ORDER, Canellaceæ.

SYN., Canella Winterana, Cassia alba, Costus corticosus, Costus dulcis, Winterana canella.

VULG., Canella bark, White canella, White cinnamon, White wood, Wild cinnamon.

The canella tree is a native of the West India Islands. "Canella has been sometimes confounded with Winter's bark, from which, however, it differs both in sensible properties and composition."—*U. S. Disp.*

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried canella bark. Run the bark through drug mill, transfer to a suitable vessel, and *moisten* with hot (112° F.) water, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CANNABIS (SATIVA) AMERICANA. (*can'na-bis a-mer-i-can'a.*)

NAT. ORDER, Urticaceæ, Cannabineæ.

SYN., Cannabis Americana, Cannabis Chinensis, Cannabis Europea.

VULG., American hemp, Hemp, Gallow grass.

This plant is an annual. It is occasionally found growing wild, and is also extensively cultivated in both the Southern and Western States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take of alcohol, sp. gr. '835, a *sufficient quantity*, and *four parts* of the the fresh (blooming) plant tops. Bruise the plant in a Wedgewood mortar, express, and strain off the fluid portion, and add sufficient alcohol, sp. gr. '835, that the specific gravity of the mixture shall equal '920. Transfer the bruised plant to a suitable vessel and add the above diluted expressed juice, together with *sufficient alcohol*, sp. gr. '920, that the mixture shall measure fourteen parts; macerate for fourteen days, express and filter and then add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

CANNABIS (SATIVA) INDICA. (*can'na-bis in'di-ca.*)

NAT. ORDER, Urticaceæ, Cannabineæ.

VULG., Bhang, East Indian cannabis, Ganja, Gunjah, Hachshish, Hashish, Indian hemp.

"The hemp plant is indigenous to Asia, from India north to Western China and the Caspian Sea; it grows likewise in tropical Africa, has been naturalized in some parts of Brazil, and is cultivated in many parts of the world."—*Nat. Disp.*

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant* (*gunjah*). Reduce the herb to a moderately coarse powder, transfer to a suitable vessel, and add sufficient hot (112° F.) water to moisten it and digest for three hours; then add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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* In *this* preparation the *female* plant is used.

CANTHARIS. (*can'tha-ris.*)

ORDER, Coleoptera.
CLASS, Insecta.
FAMILY, Trachelides.
SYN., Cantharis vesicatoria, Lytta vesicatoria, Meloe vesicatorius, Musca hispaniola.
VULG., Cantharides, Spanish fly.

"Cantharides come chiefly from Spain, Italy, Sicily, and other parts of the Mediterranean. Considerable quantities are also brought from St. Petersburg, derived originally, in all probability, from the southern provinces of Russia, where the insect is very abundant. The Russian flies are more esteemed than those from other sources. They may be distinguished by their greater size, and their color approaching to that of copper."—*U. S. Disp.*

The Preparations of this insect are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *two parts* of the Spanish flies. Run through drug mill, reduce the flies to a moderately fine powder, moisten with hot (112° F.) water, and firmly pack in a conical percolator. Add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the insect.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '920, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '920, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the insects. Deposit the insects in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar. and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the insects. Deposit the insects in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the flies, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CAPSICUM. (*cap'si-cum.*)

NAT. ORDER, Solanaceæ.

SYN., C. annuum, C. cordiforme, C. longum, C. grossum, Piper hispanicum, P. indicum vulgatissimum, P. turcicum.

VULG. Bell pepper, Bird pepper, Cayenne pepper, Cockspur pepper, Guinea pepper, Guinea pods, Red pepper, Spanish pepper, Tochillies.

This plant, the *capsicum annuum*, is indigenous to Asia and America. It is cultivated in all parts of the world.

The Preparations of the fruit of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *two parts* of the recently dried ripe fruit. Run the fruit through drug mill, reduce to a moderately fine powder, moisten with hot (112° F.) water, firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried fruit.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CARBO ANIMALIS. (*car'bo an'i-mal-is.*)

VULG., Animal charcoal.

"The preparation used by Hahnemann in his provings, and which ought, therefore, to be preferred to all others, was made as follows: Place a thick piece of ox-hide leather on red-hot coals, and leave it there so long as it burns with a flame. As soon, however, as the flame ceases, lift off the red-hot mass and extinguish it by pressing between two flat stones."—*British Hom. Pharm.*

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the charcoal. Deposit the charcoal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the charcoal. Deposit the charcoal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the charcoal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CARBO LIGNI. (*car'bo lig'ni.*)

SYN., Carbo vegetabilis.

VULG., Vegetable charcoal, Wood charcoal.

The charcoal used by Hahnemann is alleged to have been prepared from birch wood. Charcoal for medicinal use should be thoroughly carbonized.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the charcoal. Deposit the charcoal in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration, adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the charcoal. Deposit the charcoal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the charcoal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CARBONEUM. (*car-bo' ne-um.*)

VULG., Lampblack.

This carbonaceous matter is procured by an imperfect combustion of oleagenous and resinous substances.

The Preparations of this form of carbon are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the lampblack. Deposit the lampblack in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the lampblack. Deposit the lampblack in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the lampblack, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CARBONEUM CHLORATUM. (*car-bo' ne-um chlo-ra' tum.*)

SYN., Carbonei tetrachloridum, Chlorocarbon, Tetrachloride of carbon.

Formula.—$C\ Cl^4$; 154.

This colorless oily liquid is obtained by passing chlorine gas through bisulphide of carbon. The vapor is afterwards passed through a porcelain tube which is heated to a red heat, and is subsequently condensed in a refrigerating mixture.

The Preparations of the tetrachloride are the centesimal dilutions.

DILUTIONS.—To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of the tetrachloride; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

CARBONEUM HYDROGENISATUM. (*car-bo'ne-um hy-dro-gen-i-sa'tum.*)

SYN., Carburetted hydrogen, Ethene.

VULG., Oleflant gas.

Formula.—$C^2 H^4$.

This gas is generated from a mixture of strong spirits of wine (alcohol), and oil of vitriol (sulphuric acid). The gas is purified by being passed through a series of wash bottles; one or more of which contain caustic potas, and others sulphuric acid.

The Preparations of this gaseous substance are its alcoholic solution * and its decimal and centesimal dilutions.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the alcoholic solution; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the *second* decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the alcoholic solution; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CARBONEUM SULPHURATUM. (*car-bo'ne-um sul-phur'a-tum.*)

SYN., Alcohol lampadii, Alcohol sulphuris, Carbon bisulphide, Carbonic sulphide, Carburetum sulphuris.

VULG., Bisulphide of carbon, Bisulphuret of carbon, Carburet of sulphur, Sulphuret of carbon.

Formula.—CS^2; 76.

This transparent colorless liquid is obtained by vaporizing sulphur in the presence of carbon, with which substance at so high a temperature it readily combines. Bisulphide of carbon has the density of 1.272.

The Preparations of the bisulphide are the centesimal dilutions.

DILUTIONS.—To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the bisulphide; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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* A saturated alcoholic solution contains about 10 per cent of carburetted hydrogen.

CARDUUS BENEDICTUS. (*car'du-us ben-e-dict'us.*)

NAT. ORDER, Compositæ.

SYN., Calcitrapa lanuginosa, Centaurea benedicta, Cnicus benedictus.

VULG., Blessed thistle, Cardus plant, Cursed thistle, Holy thistle, Lovely thistle, Spotted cardus, Spotted thistle, Star thistle, Thistle root.

This herbaceous plant is an annual, and an indigene of Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of the recently gathered plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol, and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CARYA ALBA. (*ca'rya al'ba.*)

NAT. ORDER, Juglandaceæ.

VULG., Hickory nut, Shag bark, Shell bark, Walnut.

This tree is indigenous to North America.

The Preparations from the outer cover of the fruit of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the outer cover or bark of the ripe nuts. Bruise the bark thoroughly in a brass or Wedgewood mortar, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the bark covering the shell of the fruit.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to

ninety-nine parts of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CASCARILLA. (*cas-ca-ril' la.*)

NAT. ORDER, Euphorbiaceæ.

SYN., Clutia, Clutia eluteria, Croton eleutheria, Croton glabellus.

VULG., Bahama cascarilla, Cascarilla bark, Eleuthera bark, Seaside Balsam, Sweet bark, Sweet wood.

"There has been much confusion in relation to the different species of croton growing in the West Indies, and as to which of them the cascarilla of the shops is to be ascribed. At present, however, it is generally admitted that this bark, which is brought exclusively from the Bahama Islands, is the product of Croton Eluteria; and, though it is probable that the proper C. Cascarilla may at one time have yielded a portion of its bark to commerce, at present little or none is derived from that species." —*U. S. Disp.*

The Preparations of this bark are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark. Run bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water, and firmly pack in a conical percolator, add the alcohol from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CASTANEA. (*cas-ta-ne'a.*)

NAT. ORDER, Cupuliferæ.

SYN., Castanea edulis, Castanea vesca.

VULG., Chestnut.

The American chestnut is more frequently found in the States bordering on the Atlantic; although it also thrives well in some portions of the Middle States.

The Preparations from the leaves of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of the recently gathered leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CASTOR EQUORUM. (*cas'tor ec-u-o'rum.*)

SYN., Equus caballus, Verruca equorum.

This animal substance is "the blackish excrescence, found on the inner side of the fore and hind legs of the horse above the knee and below the hock joints, which readily exfoliates, and on rubbing emits a peculiar odor." * * * * *—*Pharm. Hom. Polyglotta.*

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered animal matter. Deposit the animal matter in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered animal matter. Deposit the animal matter in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the powdered tissue, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CASTOREUM. (*cas-to're-um.*)

SYN., Castor fiber, Castoreum muscoviticum, Castoreum Russicum, Castoreum sibiricum.

VULG., Beaver's cod, Castor.

This animal substance is the membranous follicle containing an odorous secretion, situated externally between the anus and genital organs of the castor beaver.

The Preparations of the castor are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the odorous secretion of the recently dried castor. Deposit the castor in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add ballance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the odorous secretion of the recently dried castor. Deposit the castor in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the castor, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CAULOPHYLLUM. (*caul-o-phyl'lum.*)

NAT. ORDER, Berberidaceæ.

SYN., Caulophyllum thalictroides, Leontice thalictroides, Leontopetalon.

VULG., Blue cohosh, Blueberry, Leontice, Pappoose root, Squaw root.

This perennial herbaceous plant is indigenous to the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations of the active principle, *caulophyllin.**

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*This resinoid is prepared by precipitation from the saturated tincture. The tincture is an alcoholic one; it is afterward concentrated by a process of distillation, and to it there is added a strong solution of alum. The active principle is subsequently washed and ultimately dried in a current of air.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the *caulophyllin.* Deposit the caulophyllin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the caulophyllin. Deposit the caulophyllin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CAUSTICUM. (*caus ti-cum.*)

SYN., Causticum Hahnemanni, Tinctura acris sine kali.

"A piece of freshly burnt lime is put for one minute in distilled water, then placed in a dry vessel, where it crumbles to powder. Mix four parts of this powder with the same quantity of bisulphate of potash (previously ignited and melted, and after cooling pulverized and dissolved in four parts of boiling water) in a heated porcelain mortar, and after stirring it to a stiff paste, put the mixture into a glass retort, the helm of which is connected by means of wet bladder with a receiver half immersed in water. Increase the heat gradually, and distill to dryness.

The clear distilled liquid, amounting to about three parts by weight, mix with an equal amount of strong alcohol. * * * *" —*Pharm. Hom. Polygotta.*

The Preparations of this tincture (?) are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine and one-eighth parts* of alcohol, sp. gr. '941, *seven-eighths parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine and one-eighth parts* of alcohol, sp. gr. '941, *seven-eighths parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CEANOTHUS AMERICANUS. (*ce-a-no'thus a-mer-i-ca'nus.*)

NAT. ORDER, Rhamnaceæ.

SYN., Ceanothus herbacens, C. intermedius, C. officinalis, C. perennis, C. sanguineus, C. tardiflorus, C. trinervus.

VULG., New Jersey tea, Red root.

This small shrub is indigenous to the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CEDRON. (*ce'dron.*)

NAT. ORDER, Simarubaceæ.

SYN., Simaba cedron, Simaruba cedron.

VULG., Cedron.

This small tree is found growing both in New Granada and Central America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *six parts* of the recently dried seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten with hot (112° F.) water, firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downwards that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '920, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '920, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CELASTRUS SCANDENS. (*ce-las'trus scan'dens.*)

NAT. ORDER, Celastraceæ.

SYN., C. bullatus, Euonymoides scandens.

VULG., Bitter-sweet bark, Bitter-sweet staff tree, Climbing bitter-sweet, Climbing staff tree, False bitter-sweet, Fever twig, Shrubby bitter-sweet, Staff vine, Staff tree, Wax work.

This plant is an indigenous climbing shrub.

The Preparations of the bark of this climber are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CEPHALANTHUS OCCIDENTALIS. (*cef-a-lan'thus oc-ci-den-ta'lis.*)

NAT. ORDER, Rubiaceæ.

VULG., Crane willow, Button bush, Button wood shrub, Globe flower. Little snowball, Pond dogwood, Swamp dogwood, White ball.

This common shrub is indigenous to North America.

The Preparations of the bark of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark. Run bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CERASUS VIRGINIANA. (*cer'a-sus vir-gin-e-a'na.*)

NAT. ORDER, Amygdalæ.

SYN., Prunus virginiana.

VULG., Black cherry, Cabinet cherry, Choke cherry, Rum cherry.

This shrub is indigenous to America, and is a habitat of the Northern States.

The Preparations of the bark are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr '967, and *four parts* of the *recently* dried bark. Run the bark through drug mill, reduce to a moderately *fine* powder, transfer to a suitable vessel, add the alcohol and protect from the air, macerating for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '967, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '967, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** of alcohol, sp. gr. ·967, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. ·967, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. ·835, ***one part*** of each succeeding dilution.

CERIUM OXALICUM. (*ce're-um ox-al'i-cum.*)

SYN., Cerri oxalas.
VULG., Oxalate of cerium.

Formula.—$Ce\,C^2\,O^4.\ 3\,H^2\,O$; 234.

"The oxalate of cerium, a white, granular powder, is the only official salt; it may be obtained from *cerite* by boiling the powdered mineral in strong hydrochloric acid for several hours, evaporating, diluting, and filtering to separate silica; adding ammonia to precipitate hydrates of all the metals except calcium; filtering off, washing, re-dissolving in hydrochloric acid, and adding oxalic acid to precipitate oxalate of cerium. The preparation will still contain oxalates of lanthanum and didymium; it is therefore strongly calcined, the resulting oxides of lanthanum and didymium dissolved out to some extent by boiling with a concentrated solution of chloride of ammonium, the residual oxide of cerium dissolved in boiling hydrochloric acid, and oxalate of ammonia added to precipitate oxalate of cerium. Oxalate of cerium is *decomposed* * at a dull red heat, 48 per cent of a yellow, or, more generally, a salmon-colored mixture of oxides remaining; usually the didymium present gives the ignited residue a *reddish* or *reddish-brown* color; it is then soluble in *boiling* hydrochloric acid (without effervescence; indicating, indirectly, absence of *earthy* and other *carbonates* or *oxalates*), and the solution gives, with excess of a saturated solution of sulphate of potassium, a *crystalline* precipitate of double sulphate of cerium and potassium. Alumina, mixed with oxalate of cerium, may be detected by boiling with solution of potash, filtering, and adding excess of solution of chloride of ammonium, when a *white flocculent* precipitate of hydrate of aluminium will be obtained. The oxalic radical is recognized by neutralizing the potash solution by acetic acid and adding chloride of calcium; white *oxalate of calcium* is then precipitated; this precipitate, though insoluble in acetic, should be *wholly* dissolved by hydrochloric acid."—*Attfield.*

* Tests. Italicized by the author.

The Preparations of this oxalate are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oxalate. Deposit the oxalate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oxalate. Deposit the oxalate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CHAMOMILLA. (*cam-o-mil'la.*)

NAT. ORDER, Compositæ.

SYN., Anthemis vulgaris, Chamæmelum vulgare, Chamomilla nostras, C. vulgaris, Chrysanthemum chamomilla, Leucanthemum, Matricaria chamomilla, M. suaveolens.

VULG., Bitter chamomile, Corn feverfew, German chamomile, Wild chamomile.

This annual is a native of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried flowers. Run flowers through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water, and firmly pack in a conical percolator, and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force down the remaining menstruum that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CHELIDONIUM MAJUS. (*chel-i-do'ni-um ma'jus.*)

NAT. ORDER, Papaveraceæ.
SYN., C. hæmatodes, Papaver corniculatum luteum.
VULG., Calandine, Celandine, Greater celandine, Tetter-wort.

This is an herbaceous perennial, indigenous to Europe, but growing wild throughout America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried (whole) plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CHELONE GLABRA. (*chel'o-ne gla'bra.*)

NAT. ORDER, Scrophulariaceæ.
SYN., C. alba, C. oblique, Pentstemon auctus.
VULG., Balmony, Balmony snake-head, Bitter herb, Broomshell flower, Fish mouth, Salt rheum weed, Shell flower, Snake head, Turtle head.

This plant is an herbaceous perennial, is indigenous to America, and is readily known by its conspicuous flowers which resemble a snake or tortoise head.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried herb. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

CHENOPODIUM AMBROSIOIDES. (*che-no-po' di-um am-bro-si-o-i' des.*)

NAT. ORDER, Chenopodiaceæ.
SYN., Botrys mexicana, C. suffruticosum.
VULG., Jerusalem tea, Mexican goose-foot, Mexican tea.

CHENOPODIUM ANTHELMINTICUM. (*che-no-po' di-um an-thel-min' tic-um.*)

NAT. ORDER, Chenopodiaceæ.
SYN., Ambrina anthelmintica, C. ambrosioides, var anthelmintica, C. suffruticosum, Cina americana.
VULG., Jerusalem oak, Stinking weed, Worm goose-foot, Worm seed.

This indigenous perennial is extensively cultivated for its volatile oil (oleum chenopodium), upon which the medicinal properties of the plant solely depend. The volatile oil is obtained by distillation, from the herbaceous portions of the plant as well as from the seeds.

The Preparations* of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried plant. Run plant through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten with alcohol, firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

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* The dilutions may be prepared direct from the *oleum chenopodium* by first preparing an alcoholic *solution;* using *nine parts* of alcohol to *one part* of the oil. This solution, in medicinal strength, about equals the tincture when prepared according to the formula above given.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CHIMAPHILA UMBELLATA. (*che-maf'i-la um-bel-la'ta.*)

NAT. ORDER, Ericaceæ.

SYN., C. corymbosa, Pyrola corymbosa, P. umbellata.

VULG., American wintergreen, Ground holly, Ground leaf, King's cure, Noble pine, Pipsisewa, Prince's pine, Rheumatism weed, Round-leaved consumption cure, Shin leaf, White leaf.

This small perennial evergreen is indigenous to the northern portions of Asia, Europe, and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CHINA.* (*chi'na.*)

NAT. ORDER, Rubiaceæ.

SYN., C. fusca, C. officinalis, Cinchona calisaya, C. cinerea, C. cordifolia, C. corona, C. flava, C. lancifolia, C. oblongifolia, C. officinalis, C. rubra.

VULG., Calisaya bark, Peruvian bark.

"The genuine cinchona trees are confined exclusively to South America. In that continent, however, they are widely diffused, extending from the 19th degree of south latitude, considerably south of La Paz, in Bolivia, to the mountains of Santa Martha, or, according to Weddell, to the vicinity of Caracas, on the northern coast, in about the 10th degree of north latitude. They follow, in the distance, this circuitous course of the great mountain ranges, and for the most part occupy the eastern slope of the second range of the Cordilleras. Those which yield the bark of commerce grow at various elevations upon the Andes, seldom less than 4,000 feet above the sea; and require a temperature considerably lower than that which usually prevails in tropical countries."—*U. S. Disp.*

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* *Cinchona*, or *china rubra*, contains both *quinia* and *cinchonia* in the form of kinates. The proportion of quinia is considerable *greater* in the calisaya bark; cinchonia being present in limited quantities.

The Preparations of the cinchona bark are the tincture, its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '920, and *two parts* of glycerin and *four parts* of yellow Peruvian bark. Run bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with the alcohol and glycerin and macerate for twenty-four hours; firmly pack in a conical percolator and add alcohol and glycerin until the percolate measures thirteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the powdered yellow bark.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Triturations.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered yellow bark. Deposit the bark in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered yellow bark. Deposit the bark in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the bark, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CHININUM ARSENICOSUM. (*kin'i-num ar-sen-i-co'sum.*)

SYN., Quiniæ arsenias, Tri-quinia arsenate.

VULG., Arseniate of quinine.

Formula.—(2) $C^{20} H^{24} N^{2} O^{2}, H As O^{4}, 4 H^{2} O$.

This salt is formed by dissolving with the aid of heat, *one part* of arsenious acid and *four parts* of pure quinia in *fifty parts* of distilled water. The mixture is boiled until a solution of the salts is fully effected; the solution is then filtered, while hot, and set aside that crystallization may occur. The silky, needle-like crystals are readily soluble in either alcohol or boiling water.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of arseniate of quinine. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of arseniate of quinine. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CHININUM MURIATICUM. (*kin'i-num mu-ri-at'i-cum.*)

SYN., Chininum hydrochloricum, Quinia hydrochlorate, Quiniæ hydrochloras.

VULG., Hydrochlorate of quinine, Muriate of quinine.

Formula.—$C^{20} H^{24} N^{2} O^{2} HCl, 3 H^{2} O$; 396.4.

This salt is obtained by dissolving pure quinia in diluted hydrochloric acid, over a water bath, taking care to avoid an excess of the acid. The muriate of quinine, in form of stellated tufts, is soluble in about thirty-four parts of water and in about three parts of alcohol at 59° F.

Tests.—An aqueous saturated solution (now colorless), treated with fresh chlorine water, and then with water of ammonia changes to a beautiful *emerald-green* color. The salt when treated with nitric acid will not *redden;* this test is sufficient to distinguish it from a morphia salt.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of muriate of quinine. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes, add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of muriate of quinine. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CHININUM SULPHURICUM. (*kin'i-num sul-phur'i-cum.*)

SYN., Quinia sulphate, Quiniæ sulphas, Sulphas quinicus.
VULG., Sulphate of quinine.

Formula.—$2\,C^{20}H^{24}N^{2}O^{2}, H^{2}SO^{4}, 7\,H^{2}O$; 872.

This salt is prepared from the yellow cinchona by successively treating the coarsely powdered bark with boiling water acidulated with hydrochloric acid, and, this decoction with a solution of soda or lime which precipitates the quinia, and from which it is separated by alcohol. The impure quinia thus obtained is treated with sulphuric acid, enough to dissolve the salt. Sulphate of quinine is freely soluble in water acidulated with either of the mineral acids, and is soluble in alcohol and is also sparingly soluble in glycerin.

Tests.—An aqueous solution of quinine, slightly acidulated, treated with fresh chlorine water and afterwards with aqua ammonia produces an *emerald-green coloration.* Or, prior to the addition of ammonia if a few drops of ferrocyanide of potassium solution be added a *red coloration* is produced. Salts of quinia in solution are *fluorescent,* and in this respect differ from the other cinchona alkaloids (cinchonina).

The Preparations of the sulphate of quinine are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of sulphate of quinine. Deposit the quinine in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of sulphate of quinine. Deposit the quinine in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CHIONANTHUS VIRGINICA. (*she-o-nan'thus vir-gin'i-ca.*)

NAT. ORDER, Oleaceæ.

VULG., Fringe tree, Old man's beard, Poison ash, Snowdrop tree, Snow flower.

This shrub is an habitat of the northern portion of the Southern States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the recently dried bark of the root. Run bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts*

alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CHLORALUM HYDRATUM. (*klo-ral'um hy-dra'tum.*)

SYN., Chloralum, Hydras chloralis, Hydrous chloral.
VULG., Hydrate of chloral.
Formula.—$C^2 HCl^3 O, H^2 O$; 165.5.

This salt is obtained by passing dry chlorine into absolute alcohol until the latter substance is saturated. The product is then mixed with oil of vitriol (sulphuric acid) and distilled, the process is repeated, and it is then rectified from quick lime and is mixed with hot water.

Tests.—"LIEBREICH, who first proposed the use of chloral hydrate, gives the following as the characteristics of a pure article: Colorless, transparent crystals. Does not decompose by the action of the atmosphere, does not leave oily spots when pressed between blotting-paper, affects neither cork nor paper. Smells agreeably aromatic, but a little pungent when heated. Taste bitter, astringent, slightly caustic. Seems to melt on rubbing between the fingers. Dissolves in water like candy without first forming oil drops; and the solution is neutral or faintly acid to test-paper. Dissolves in bisulphide of carbon, petroleum, ether, water, alcohol, oil of turpentine, etc. Its solution in chloroform gives no color when shaken with sulphuric acid. Boiling point 203° to 205° F., and volatilizes without residue. Distilled with sulphuric acid, the chloral should pass over at 205° to 207° F. Melting point 133° to 136° F.; again solidifying at 120° F. Gives no chlorine reaction on treating the solution in water (acidulated by nitric acid) with nitrate of silver."—*Attfield.*

The Preparations of this salt are its solution and its subsequent decimal and centesimal dilutions.

THE SOLUTION.—In *nine parts* of alcohol, sp. gr. '835, dissolve *one part* of hydrate of chloral.

The *drug power* of this solution is 10 per cent; or, each minim contains the medicinal properties of *one-tenth grain* of hydrate of chloral.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the *second* decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the solution; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CHLOROFORM.* (*klo'ro-form.*)

VULG., Chloroform.

Formula.—$CH\ Cl^3$; 119.5.

This substance is obtained from alcohol by the chemical action of chlorinated lime.

CICUTA MACULATA. (*ci-cu'ta mac-u-la'ta.*)

NAT. ORDER, Umbelliferæ.

SYN., Cicuta aquatica (?), Cicuta virosa (?), Cicutaria maculata, Sium Douglasii.

VULG., American water hemlock, Beaver poison, Children's bane, Leath of man, Mushquash root, Poison root, Snake weed, Spotted cowbane, Water hemlock, Water parsley, Wild hemlock.

This perennial, analogous to *cicuta virosa*, is a habitat of the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr '941, and *four parts* of the recently dried plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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*MIXTURE OF CHLOROFORM.—"Take of purified chloroform *half a Troy ounce;* camphor *sixty grains;* the yolk of *one* egg; water *six fluidounces.* Rub the yolk in a mortar, first by itself, then with the camphor, previously dissolved in the chloroform, and lastly, with the water gradually added, so as to make a uniform mixture. * * * * * The dose is one or two tablespoonfuls."—*U. S. Disp.*

CICUTA VIROSA. (*ci-cu'ta vi-ro'sa.*)

NAT. ORDER, Umbelliferæ.

SYN., C. aquatica, Cicutaria aquatica, Sium majus angustifolium.

VULG., Cowbane, Long-leaved cowbane, Long-leaved water hemlock, Long-leaved water parsnip, Poison hemlock, Poisonous cowbane, Snake weed, Water cowbane, Water hemlock, Water parsnip.

This perennial is a native of Central Europe and Western Asia.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CIMICIFUGA RACEMOSA. (*cim-i-cif'u-ga rac-e-mo'sa.*)

NAT. ORDER, Ranunculaceæ.

SYN., Actæa gyrostachya, A. monogyna, A. orthostachya, A. racemosa, Botrophis actæoides, B. serpentaria, Cimicifuga serpentaria, Macrotys actæoides, M. octroides, M. racemosa, M. serpentaria.

VULG., Black cohosh, Black snakeroot, Bugbane, Deerweed, Rattle root, Rattlesnake root, Rattle weed, Rich weed, Squaw root.

This plant, having a perennial root, is indigenous to America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations of its active principle, *cimicifugin.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '941, and *six parts* of the recently gathered *fresh* root. Bruise and disintegrate, transfer to a suitable vessel and add *fourteen parts* of alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the cimicifugin. Deposit the resinoid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the cimicifugin. Deposit the resinoid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resinoid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CINA. (*ci'na.*)

NAT. ORDER, Compositæ.

SYN., Absinthium austriacum tenuifolium, A. ponticum tenuifolium, A. seriphium, A. tridentium herbarior, Artemisia austriaca, A. contra, A. lercheana, A. maritima, var. stechmanniana, var. pauciflora, A. santonica, A. vahliana, Semen contra, S. Sanctum, S. santocini, S. zedoariæ, S. zinæ, Sementina.

VULG., Tartarian southern-wood, Wormseed.

This plant,* is an habitat of Persia and Asia Minor.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried flowers. Run flowers through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried flowers.

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*CINA AMERICANA, is the *chenepodium anthelminticum*, or Jerusalem oak (wormseed).

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CINCHONIDINÆ SULPHAS. *'cin-klo-ne' di-a sul' phas.*)

VULG., Sulphate of cinchonidine.

Formula.—$C^{20} H^{24} N^2 O^2, H^2 SO^4. \; 3 H^2 O$; 768.

This neutral alkaloidal sulphate is prepared from the bark of the *cinchona succirubra.*

Tests.—An aqueous solution of this salt sparingly soluble in water, when slightly acidulated with sulphuric acid, should not give a *blue* fluorescence, thus showing the presence of *quinia* and *quinidine;* when thus treated, it also should not become *tinted* with any shade of color, thus showing the presence of *foreign organic matter.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate of cinchonidine. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate of cinchonidine. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CINCHONINÆ SULPHAS. (*cin-klo-ne'na sul'phas.*)

VULG., Sulphate of cinchonine.

Formula.—$C^{20} H^{24} N^{2} O^{2} H^{2} SO^{4}, 2 H^{2} O$; 750.

This alkaloidal salt is prepared from the bark of the several species of cinchona.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate of cinchonine. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate of cinchonine. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CISTUS CANADENSIS. (*cis'tus can-a-den'sis.*)

NAT. ORDER, Cistaceæ.

SYN., C. helianthemum (?), C. ramuflorum, Helianthemum canadensis, H. orymbosum, H. ramuliflorum, H. rosmarinifolium, Heteromeris canadense, H. michauxii, Lechea major.

VULG., Canadian rock-rose, Common garden sunflower, Frost plant, Frost weed, Frost wort, Holly rose, Rock rose, Scrofula weed.

This herbaceous perennial is an habitat of sterile pine barrens, growing throughout the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the recently dried plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CLEMATIS ERECTA. (*cle-ma'tis e-rec'ta.*)

NAT. ORDER, Ranunculaceæ.
SYN., Clematis recta, Flammula Jovis, F. recta.
VULG., Upright virgin's bower.

This perennial is a native of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '941, and *six parts* of the recently gathered *fresh* leaves. Bruise the plant thoroughly in a brass or Wedgewood mortar, express the juice and add sufficient alcohol, sp. gr. '835, that the sp. gr. of the mixture shall equal '941, transfer the bruised plant to a suitable vessel, and add the expressed juice and alcohol together with more alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts;* macerate for fourteen days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CLEMATIS VIRGINIANA. (*cle-ma'tis vir-gin-i-an'a.*)

NAT. ORDER, Ranunculaceæ.
SYN., C. cordata, C. cordifolia, C. fragrans, C. purshii.
VULG., Common virgin's bower.

This perennial climber is indigenous to the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '941, and *six parts* of the recently gathered *fresh* leaves. Bruise the plant thoroughly in a brass or Wedgewood mortar, express the juice and add sufficient alcohol, sp. gr. '835, that the sp. gr. of the mixture shall equal '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol together with more alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts;* macerate for fourteen days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

COBALTUM CHLORIDUM. (*co-balt'um chlo-ri'dum.*)

VULG., Chloride of cobalt.

Formula.—$Co\ Cl^2$; 129.8.

This salt is prepared by dissolving oxide of cobalt in pure hydrochloric acid; the solution is deep red and when strong it deposits hydrated crystals (of the chloride).

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chloride. Deposit the chloride in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the chloride. Deposit the chloride in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

COCCINELLA SEPTEMPUNCTATA.* (*kok-se-nel'la sep-tem-punc-ta'ta.*)

ORDER, Coleoptera.
CLASS, Insecta.
FAMILY, Coccinellidæ.
SYN., Chrysomela septempunctata, Coccionella Europæa.
VULG., Lady-bird, Lady-cow, Sun-chafer.

The Preparations of this insect are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the living beetles. Bruise the insects in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the living tissues.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.
All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

COCCULUS INDICUS. (*kok'cu'lus in'di-cus.*)

NAT. ORDER, Menispermaceæ.
SYN., Anamirta cocculus, A. paniculatum, Cocculus suberosus, Menispermum cocculus, M. heteroclitum, M. monadelphum.
VULG., Indian cockle, Oriental berries.

This is the fruit of the *menispermum cocculus,* a climbing shrub, a native of Continental India. The medicinal properties are said to be due to a bitter principle denominated by M. Boullay, *picrotoxin,* and subsequently named by M. M. Pelletien, *picrotoxic acid.*

The Preparations of this fruit are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the dried fruit. Run the fruit through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*
The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried fruit.

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* The medicinal properties of this insect (beetle) are supposed to be due to a *volatile* acid.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

COCCULUS PALMATUS. (*kok'cu-lus palm-a'tus.*)

NAT. ORDER, Menispermaceæ.

SYN., Chasmanthera columba, Columbo, Jateorrhiza calumba, J. miersii, J. palmata, Menispermum columba, M. palmatum.

VULG., Calumba, Columbia, Colambo, Indian lettuce, Marietta columbia, Pyramid flower.

This perennial climber is an indigene of South-eastern Africa. Its medicinal properties are alleged to be owing to the presence of an intensely bitter principle, *columbic acid*, associated with still another supposed to be *berberina*.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of columbo. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with a 3 per cent solution of *acetic acid*, digest for ten or twelve hours, and add the alcohol and macerate for fourteen days; *decant* and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

COCCUS CACTI. (*koc'cus kac'ti.*)

ORDER, Hemiptera.

CLASS, Insecta.

FAMILY, Coccidæ.

SYN., Coccionella Indica.

VULG., Cochineal.

"The coccus cacti is found wild in Mexico and Central America, inhabiting different species of cactus and allied genera of plants; and is said to have been discovered also in some of the West India Islands and the southern parts of the United States."—*U. S. Disp.*

The Preparations of this insect are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the dried insects. Bruise the insects thoroughly in a mortar, transfer to a suitable vessel and add the alcohol, and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried insects.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CODEINUM. (*co-de-i'num.*)

SYN., Codeia, Codein.
VULG., Codeine.

Formula.—$C^{18} H^{21} NO^{3}, H^{2} O$; 317.

This is an alkaloidal salt prepared from opium, and, being precipitated together with morphia in the form of a chloride, it is separated therefrom by redissolving the salts and adding ammonia. It is very soluble in alcohol and is also soluble in about 80 parts of water, 59° F.

Tests.—Codeine when added to sulphuric acid containing about 1 per cent of molybdate of sodium will dissolve, producing a dirty *green* color that afterward changes to a clear *blue*, and subsequently to a pale *yellow.* Dissolved in sulphuric acid containing a trace of ferric chloride, the solution changes, becoming a dark, deep *blue.* A solution treated with nitric acid should not become *red,* thus showing the absence of morphia.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes;

add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

COFFEA CRUDA. (*cof'fe-a cru'da.*)

NAT. ORDER, Rubiaceæ.
SYN., Coffea Arabica.
VULG., Coffee.

The *coffee Arabica* is indigenous to Southern Arabia and to Abyssinia. The seeds of the fruit are the medicinal part of the plant.

The Preparations of the seeds are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *green* (Mocha) coffee berries. Bruise thoroughly in an iron mortar, transfer to a suitable vessel and *moisten* with hot (112° F.) water, cover, and digest for six or eight hours and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the green berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

COLCHICUM. (*kolh'i-cum.*)

NAT. ORDER, Melanthaceæ.
SYN., C. Angelicum, C. Autumnal, C. commune.
VULG., Colchicum, Meadow saffron, Naked lady, Tuber root, Upstart.

This perennial is a native of Southern Europe. Its medicinal virtues are alleged to be greater during the summer months.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the recently gathered *fresh* bulbs. Bruise thoroughly in a mortar, express the juice and add sufficient alcohol that the specific gravity of the mixture shall be '941; then add sufficient alcohol, sp. gr. '941, to the mixture to make *sixteen parts*, transfer to a suitable vessel and add the bruised bulb and macerate for fourteen days, and express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* bulb.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

COLLINSONIA CANADENSIS. (*col-lin-so'nia can-a-den'sis.*)

NAT. ORDER, Labiatæ.

SYN., C. decussata, C. ovalis, C. scrotina.

VULG., Canada snakeroot, Hard hack, Heal all, Horse or ox balm, Horse weed, Knob root, Knob's grass, Knot root, Rich weed, Rock weed, Stone root.

This plant, with a peculiarly dense, hard, knotty root, is indigenous to North America.

The Preparations of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered *fresh* root. Chop, bruise, and thoroughly disintegrate the root, and transfer to a suitable vessel and add the alcohol and macerate for *twenty-one* days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

COLOCYNTHIS. (*col-o-sin'this.*)

NAT. ORDER, Cucurbitaceæ.

SYN., Citrullus colocynthis, Colocynthis vulgaris, Cucumis colocynthis.

VULG., Bitter apple, Bitter cucumber, Bitter gourd.

This substance is the dried fruit of an annual climber, a plant indigenous to Turkey and also an habitat of both Asia and Africa.

The Preparations* of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *two parts* of the dried fruit. Run fruit through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water, and digest for an hour or two, then add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the dried fruit.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* of alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

COMMOCLADIA DENTATA. (*com-mo-cla'dia den-ta'ta.*)

NAT. ORDER, Anacardiaceæ.

SYN., Guao.

VULG., Bastard Brazil wood, Tooth-leaved maiden plum.

This shrub is an habitat of Cuba.

The Preparations of the bark of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried bark.

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* This substance may also be prepared in the form of a *tincturation.* (See Page 145).

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CONDURANGO.* (*con-du-ran'go.*)

NAT. ORDER, Asclepiadaceæ.

VULG., Condor plant.

This climbing shrub, an habitat, growing at high altitudes, is found in Ecuador.

The Preparations of the bark are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately *fine* powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CONIUM MACULATUM. (*co-ni'um mac-u-la'tum.*)

NAT. ORDER, Umbelliferæ.

SYN., Cicuta vulgaris, Conium major, Coriandum cicuta.

VULG., Cicuta, Hemlock, Poison hemlock, Poison parsley, Spotted hemlock, Water hemlock.

This plant, a biennial, is a native of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently gathered *fresh* plant (fruit and leaves). Bruise the plant thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

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* Cundurango.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution. to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CONVALLARIA MAJALIS. (*con-val-la'ria ma-jal'is.*)

NAT. ORDER, Liliaceæ.
SYN., Lilium convallium.
VULG., Lily of the valley.

This plant, a native of Europe, is also an habitat of the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr '941, and *six parts** of the *fresh* plant (whole plant in flower). Bruise the plant thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CONVOLVULUS ARVENSIS. (*con-vol'vu-lus ar-ven'sis.*)

NAT. ORDER, Convolvulaceæ.
VULG., Common bindweed, Small bearbind.

This perennial plant is an habitat of Europe, Asia, Africa and also America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

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* Two parts each of the root, leaves and flowers.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the *fresh* plant Bruise the plant thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CONVOLVULUS DUARTINUS. (*con-vol'vu-lus duar-ti'nus.*)

NAT. ORDER, Convolvulaceæ.

SYN., Calonyction speciosum, Convolvulus pulcherrimus, Ipomæa bona-nox.

VULG., Morning glory.

This plant, a climber, is cultivated in the gardens of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* flowers. Bruise the flowers thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CONVOLVULUS SCAMMONIÆ. (*con-vol'vu-lus scam-mo'nia.*)

NAT. ORDER, Convolvulaceæ.

SYN., C. pseudo-scammoniæ, Scammonium, S. halepense, Scammony.
VULG., Aleppo scammony, Syrian bindweed.

This plant is a native of Syria. The substance employed under the name scammony, is the concrete juice of the root of the plant.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the resin. Deposit the resin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the resin. Deposit the resin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

COPAIVA OFFICINALIS. (*co-pa'va of-fic-i-na'lis.*)

NAT. ORDER, Leguminosæ.
SYN., Copaifera glabra, C. jacquini, C. lansdorfii, C. laxa, C. multijuga, C. nitida, C. officinalis, C. sellowii.
VULG., Balsam of copaiba.

This tree is an indigene of Venezuela and also is an habitat of the West India islands. The medicinal properties are found to chiefly exist in an oleo-resinous exudation, termed *balsam of copaiva.*

The Preparations of this substance are its decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of copaiva; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of copaiva; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CORALLIUM RUBRUM. (*cor-al'li-um ru'brum.*)

ORDER, Alcyonaria.
CLASS, Polypi.
FAMILY, Corallina.
SYN., Gorgonia nobilis, Isis nobilis.
VULG., Red coral.

This calcareous product is from the Mediterranean, and from the Greek Archipelago.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the *powdered* coral. Deposit the coral in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the *powdered* coral. Deposit the coral in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the coral, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CORALLORHIZA ODONTORHIZA. (*cor-al'lo-rhi-za o-don'to-rhi-za.*)

NAT. ORDER, Orchidaceæ.
SYN., Corallorhiza Wistariana.
VULG., Coral root.

This plant is an habitat of the Eastern United States.

The Preparations of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CORNUS CIRCINATA. (*cor'nus cir-ce-na'ta.*)

NAT. ORDER, Cornaceæ.

SYN., Cornus rugosa, Cornus tomentulosa.

VULG., Cornea, Dogwood, Green osier, Round-leaved cornel, Round-leaved dogwood, Swamp sassafras.

This shrub is indigenous to the Northern United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen part* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CORNUS FLORIDA. (*cor'nus flor'i-da.*)

NAT. ORDER. Cornaceæ.

SYN., Benthamidia florida.

VULG., American boxwood, Boxtree, Boxwood, Dogtree, Dogwood, Florida dogwood, Flowering dogwood, Large flowering cornel, Male Virginian dogwood, New England boxwood.

This small tree is indigenous to the United States.

The Preparations of the bark are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr.

'835, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol; sp. gr. '835, *one part* of each succeeding dilution.

CORNUS SERICEA.* (*cor'nus se-rish'e-a.*)

NAT. ORDER, Cornaceæ.

SYN., C. alba, C. amomum, C. cœrulea, C. cyanocarpus, C. lanuginosa, C. obliqua, C. polygama, C. rubiginosa.

VULG., American red cornel, Blue-berried cornus, Blue-berried dogwood, Female dogwood, Kinnikinnik, Red osier, Red rod, Red willow, Rose willow, Silky cornel, Silky-leaved dogwood, Swamp dogwood, Willow rose.

CORYDALIS FORMOSA. (*kor-e-dal'is for-mo'sa.*)

NAT. ORDER, Fumariaceæ.

SYN., C. canadensis, Dicentra canadensis, D. eximia, Diclytra, Dielytra.

VULG., Choice dyelytra, Fumitory, Staggarweed, Turkey corn, Turkey pea.

This plant is indigenous to the Middle and Western States of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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*Preparations of this species of cornus—See *cornus florida.*

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

COTYLEDON UMBILICUS. (*cot-e-le'don um-bil'i-cus.*)

NAT. ORDER, Crassulaceæ.
SYN., Umbilicus pendulinus.
VULG., Kidneywort, Navelwort, Pennywort.

This plant, an herbaceous perennial, is a native of England.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the *fresh* succulent leaves. Bruise the leaves thoroughly, express the juice and add to it sufficient alcohol that the specific gravity of the mixture shall stand at '941. Transfer the bruised plant to a suitable vessel, add the expressed juice and alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol (sp. gr. '941), that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CROCUS SATIVUS. (*kro'kus sa-ti'vus.*)

NAT. ORDER, Iridaceæ.
SYN., Crocus autumnalis, C. hispanicus, C. verus.
VULG., Saffron.

This perennial is a native of Greece and Asia Minor. It is cultivated throughout Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried flowers. Run flowers through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water and firmly pack in a conical percolator. Add the alcohol from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried flowers (stigmas).

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CROTALUS CASCAVELLA. (*kro-tal'us kas-ca-vel'la.*)

ORDER, Ophidia.
CLASS, Reptilia.
FAMILY, Crotalidæ.
VULG., Brazilian rattlesnake.

The Preparations* of the venom of this species of reptilia are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the venom. Deposit the venom in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the venom, and steadily triturate for fifteen minutes; then add another portion and triturate for fifteen minutes; and finally, the last portion and triturate for thirty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CROTALUS HORRIDUS. (*kro-tal'us hor-ri'dus.*)

ORDER, Ophidia.
CLASS, Reptilia.
FAMILY, Crotalidæ.
SYN., Crotalus durissus.
VULG., Rattlesnake.

The Preparations† of the venom of this species of reptilia are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the venom. Deposit the venom in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the venom, and steadily triturate for fifteen minutes; then add another portion and triturate for fifteen minutes; and finally, the last portion and triturate for thirty minutes.

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* Foot-note p. 183.

† It is alleged that in 1864 Dr. Hering obtained the venom of the rattlesnake by first chloroforming, then decapitating. The poison fangs were tied, and thus made to protrude, after which by the means of pressure the venom was forced out of the secretory sacs.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CROTON TIGLIUM. (*kro'ton tig'li-um.*)

NAT. ORDER, Euphorbiaceæ.
SYN., Croton jamalgota, Grana tiglii, Tiglium officinale.
VULG., Croton oil, Croton tree, Purging nut.

This shrub is a native of Hindoostan, Ceylon, the Molacca Isles and other parts of India.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried seeds. Run seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel *moisten* with alcohol, firmly pack in a conical percolator, and add the alcohol, from time to time, until the percolate measures fourteen parts; add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CUBEBA OFFICINALIS. (*ku-be'ba of-fic-i-na'lis.*)

NAT. ORDER, Piperaceæ.
SYN., Piper caudatum, P. cubeba.
VULG., Cubeb pepper, Cubeba.

This plant, a perennial climber, is a native of the East Indies.

The Preparations of the unripe fruit of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried cubebs. Run the cubebs through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten with alcohol, firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried fruit.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CUPRUM ACETICUM. (*ku'prum a-ce'ti-cum.*)

SYN., Cupri acetas, C. subacetas (?), C. acetate, Ærugo distillata.
VULG., Acetate of copper, Oxyacetate of copper (?), Verdigris (?).
Formula.—$Cu\ 2\ C^2\ H^3\ O^2$; 199.5.

This salt is obtained by the action of the air on plates of copper in the presence of refuse grape-husks. The *subacetate* thus formed is dissolved in diluted acetic acid and the solution is evaporated to dryness.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acetate. Deposit the acetate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acetate. Deposit the acetate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CUPRUM ARSENICOSUM. (*ku'prum ar-sen-i-co'sum.*)

SYN., C. arseniosum, C. oxydatum arsenicosum, Hydric-cupric arsenite.

VULG., Arsenite of copper, Scheele's green.

Formula.—$CuHAsO^3$.

This insoluble yellowish-green powder is formed by precipitation. A boiling mixture composed of arsenious acid and caustic potas is added to a hot solution of sulphate of copper, and by constant stirring the arsenite is ultimately formed and subsequently precipitated.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the arsenite. Deposit the arsenite in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the arsenite. Deposit the arsenite in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CUPRUM CARBONICUM. (*ku'prum car-bon'i-cum.*)

SYN., Cupri carbonas, Hydrated-dibasic cupric carbonate.

VULG., Carbonate of copper.

Formula.—$CuO.2H^2O.CuCO^3$.

This salt exists under the name of *malachite.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the carbonate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the carbonate. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes: and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CUPRUM SULPHURICUM. (*ku'prum sul-phur'i-cum.*)

SYN., Cupri sulphas, Cupric sulphate, Cuprum vitriolatum.

VULG., Blue stone, Blue vitriol, Sulphate of copper.

Formula.—Cu So^4, 5 H^2 O; 249.5.

This salt is obtained by the oxidation of *copper pyrites.*

Tests.—For the detection of the presence of cuprum salts, in solution (in minute quantities), treat the suspected liquid with a few drops of a solution of ferrocyanide of potassium; copper being present, a *mauve* colored precipitate (*ferrocyanide of copper*) will be produced. Or, the quantity of copper being larger, its presence may be detected by the introduction of a smooth, bright piece of iron or steel into the solution; a metallic film or coating of copper being sooner or later deposited thereon.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CUPRUM SULPHURICO AMMONIATUM. (*ku'prum sul-phur'i-co am-mo-ni-a'tum.*)

SYN., C. ammoniæ sulphuricum.

VULG., Ammonio-sulphate of copper. Ammoniated copper.

Formula.—$Cu\ (NH^3)\ SO^4.\ H^2O$; 245.5.

"Take of sulphate of copper, *half a Troy ounce;* carbonate of ammonia, *three hundred and sixty grains.* Rub them together in a glass mortar until effervescence ceases. Then wrap the ammoniated copper in bibulous paper, dry it with a gentle heat and keep it in a well-stopped glass bottle."—*U. S. Disp.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of ammoniated copper. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of ammoniated copper. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CURARE. (*cu-ra're.*)

SYN., Ourary, Strychnos gujanensis, Strychnos toxifera, Surari, Urali, Urari, Woorali, Wourali, Wourari, Wurali.

"The latest information concerning the preparation of this South American arrow-poison is from Dr. Jobert (1878), who, writing from Belin de Para to the French Academy, made the following statements: The principle ingredients are *urariu va* (probably *strychnos castelnæ*, Wed.) and *eko*, also called *pani du maharas* (probably *cocculus toxiferus*, Wed.). The young bark of these plants are well scraped, and the scrapings are mixed in the proportions of four parts of the former and one of the latter; the mixture is well kneaded with the hands and, in a funnel made of a palm leaf, exhausted with cold water, the liquid being returned seven or eight times. The red infusion is boiled with fragments of *taga* (au avoidea) and *mucura-ea-ha* or *cone* (probably *didelphyo cancrivora*). After about six hours the liquid has acquired a thick consistence, and is mixed with the scrapings of three species of pepper (Artanthe?) and *tau-magere*, and again boiled and allowed to cool, when it will have the consistence of a thick paste.

It is, however, very probable that in different parts of South America it is prepared from different plants. Indeed, it has been stated that the *curare* of Guiana, which is always met with in small earthen jars, is obtained from Rouhamon guianensis, *Aubl.*, and strychnos cogens, *Benth.*, and that the *urati* consists chiefly of the extract of strychnos toxifera, *Schomb.*, and is always preserved in calabashes. Paullinia cururu *Lin.*, has likewise been named as one of the ingredients."—*Nat. Disp.*

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the curare. Deposit the extract in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the curare. Deposit the curare in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the extract, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

CYCLAMEN EUROPÆUM. (*sik'la-men u-ro-pe'um.*)

NAT. ORDER, Primulaceæ.

SYN., Artanita cyclamen, Cyclamen hedere folio, C. neopolitanum, C. officinale, C. orbiculare, C. vernum.

VULG., Sowbread.

This herbaceous perennial plant is indigenous to Southern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered *fresh* root. Bruise and disintegrate the root, transfer to a suitable vessel and add the alcohol, and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CYNOGLOSSUM OFFICINALE. (*si-no-glos'sum of-fic'i-nale.*)

NAT. ORDER, Borraginaceæ.

VULG., Hound's tongue.

This biennial plant is a native of Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered *fresh* root. Bruise and disintegrate the root, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

CYPRIPEDIUM. (*si- pri-pe' di-um.*)

NAT. ORDER, Orchidaceæ.

SYN., Cypripedium pubescens.

VULG., American valerian, Bleeding heart, Indian shoe, Lady's slipper, Large yellow lady's slipper, Moccasin plant, Moccasin root, Nerve root, Nervine, Noah's ark, Umbit root, Yellow lady's slipper.

This plant is indigenous to the United States.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried root. Run root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835. *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DAMIANA. (*dam-i-a'na.*)

NAT. ORDER, Turneraceæ.

SYN., Turnera microphylla, T. aphrodisiaca.

VULG., Damiana.

An habitat of South America. The plant also grows in the Western portion of North America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves. Run leaves through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DAPHNE INDICA. (*daf'ne in'di-ca.*)

NAT. ORDER, Thymelaceæ.

SYN., Daphne cannabina, D. lagetto, D. odora, Lagetta lintearea.

VULG., Sweet-scented spurge-laurel.

This shrub is indigenous to the West Indies and China.

The Preparations of the bark of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark. Run bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DATURA ARBOREA. (*da-tu'ra ar-bo're-a.*).

NAT. ORDER, Solanaceæ.

SYN., Burgmansia gardneri.

VULG., Tree stramonium.

This shrub is an indigene of Peru, and is an habitat of California.

The Preparations of the leaves and flowers of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the fresh leaves and flowers. Bruise thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh leaves and flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DELPHINUS AMAZONICUS. (*del-phi'nus am-a-zon'i-cus.*)

ORDER, Cetacea.
CLASS, Mammalia.
FAMILY, Delphinida.
VULG., Dolphin.

The Preparations of the skin of this fish are the decimal and centesimal triturations. (?)

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of coarse milk sugar *one part* of the grated fresh skin. Deposit the tissue in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of coarse milk sugar to *one part* of the grated fresh skin. Deposit the tissue in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the tissue, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

DICTAMNUS ALBUS. (*dic-tam'nus al'bus.*)

NAT. ORDER, Rutaceæ.

VULG., Bastard dittany, White dittany, White fraxinella.

This perennial plant is an habitat of Southern Europe.

The Preparations of the bark of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp gr. '835, *one part* of each succeeding dilution.

DIGITALIS. (*dig-i-ta'lis.*)

NAT. ORDER, Scrophulariaceæ.

SYN., Campanula sylvestris, Digitalis purpurea, D. speciosa, D. tomentosa.

VULG., Fairy fingers, Fairy's glove, Foxglove, Purple foxglove.

This plant is an habitat of Europe. It is cultivated both there and also, here in America.

"The leaves are the part generally employed. Much care is requisite in selecting, preparing and preserving them, in order to ensure their activity. They should be gathered in the second year, immediately before or during the period of inflorescence, and those only chosen which are full-grown and perfectly fresh (Geiger). It is said that those plants are preferable which grow spontaneously in elevated places, exposed to the sun (Duncan). As the leaf, stalk and midrib are comparatively inactive, they may be rejected. Withering recommends that the leaves should be dried either in the sunshine, or by a gentle heat before the fire; and care should be taken to keep them separate while drying. Pereiva states that a more common, and, in his opinion, a preferable mode, is to dry them in a basket, in a dark place, in a drying stove. It is probably owing, in part, to the want of proper attention in preparing digitalis for the market, that it is so tenof insufficient."—*U. S. Disp.*

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a ***sufficient quantity*** of alcohol, sp. gr. '835, ***six parts*** of water, ***two parts*** of glycerin and ***four parts*** of the recently dried uncultivated leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, and transfer to a suitable vessel; mix the water and glycerin together, heat to 120° F., and with this ***moisten*** the powdered leaves; to the remaining portion of water and glycerin add sufficient alcohol that the specific gravity shall be '941; then add to the drug (when cold) and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '941, that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 25 per cent; or, each minim contains the medicinal properties of ***one-fourth grain*** of the recently dried leaves.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***six parts*** of alcohol, sp. gr. '941, ***four parts*** of tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** of alcohol, sp. gr. '941, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

DIOSCOREA. (*di-os-ko're-a.*)

NAT. ORDER, Dioscoreaceæ.

SYN., Dioscorea quinata, D. paniculata, D. villosa, Ubium quinatum.

VULG., China root, Colic root, Devil's bones, Hairy yam, Wild yam.

This perennial creeper is indigenous to North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions. Besides these there are the decimal and centesimal triturations of the resinoid *dioscorein.*

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '835, and ***six parts*** of the recently dried root. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of ***three-eighths grain*** of the recently dried root.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***seven and three-fourths parts*** alcohol, sp. gr. '835, ***two and one-fourth parts*** of tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-seven and three-fourths parts*** of alcohol, sp. gr. '835, ***two and one-fourth parts*** of the tincture; the

second centesimal dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of dioscorein. Deposit the resinoid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of dioscorein. Deposit the resinoid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resinoid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

DIPSACUS SYLVESTRIS. *(dip'sa-cus syl-ves'tris.)*

NAT. ORDER, Dipsaceæ.
VULG., Wild teasel.

This plant is an indigene of Europe, Western Asia and Northern Africa. It is also an habitat of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* plant (in flower). Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DIRCA PALUSTRIS. (*dir'ca pa-lus'tris.*)

NAT. ORDER, Thymelaceæ.

VULG., Leather wood, Moose wood, Rope bark, Wicopy.

This shrub is indigenous to the United States.

The Preparations of the bark of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the twigs. Run bark through drug mill, reduce the bark to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DOLICHOS PRURIENS. (*dol'e-kos pru're-ens.*)

NAT. ORDER, Leguminosæ.

SYN., Carpopogon pruriens, Mucuna pruriens, M. prurita, Stitzolobium pruriens.

VULG., Cowhage, Cowitch, Kiwach.

This herbaceous climbing perennial is a native of tropical America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the hairs of the pods. Transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the hair of the pods.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DORYPHORA DECEMLINEATA. (*do-ry'pho-ra de-cem-lin-e'a-ta.*)

ORDER, Coleoptera.
CLASS, Insecta.
FAMILY, Chrysomelina.
VULG., Colorado beetle, Colorado potato bug, Potato bug.

The Preparations of this insect are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the living insects. Crush the insects in a Wedgewood mortar, transfer to a suitable vessel, and add the alcohol and macerate seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the living insect.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DRACONTIUM. (*dra-kon'she-um.*)

NAT. ORDER, Ictodes fœtidus, Pothos fœtidus, Symplocarpus fœtidus.
VULG., Bear's foot, Bear's leat, Collard, Cow collard, Fœtid hellebone, Irish cabbage, Itch weed, Meadow cabbage, Poke, Polecat collard, Polecat weed, Skoka, Skunk cabbage, Skunk weed, Stinking pothos, Swamp cabbage.

This perennial is indigenous to North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *recently* dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DROSERA. (*dro-se'ra.*)

NAT. ORDER, Droseraceæ.

SYN., Drosera capillaris, D. rotundifolia, Rorella rotundifolia, Ros solis.

VULG., Moorgrass, Red rot, Round-leaved sundew, Sundew, Youth wort.

This plant is an habitat of middle and Southern Europe, of Northern Asia and of some parts of North and South America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '835, and ***six parts*** of the recently dried plant (root, stalk, leaves and flowers). Run through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of ***three-eighths grain*** of the recently dried plant.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***seven and three-fourths parts*** of alcohol, sp. gr. '835, ***two and one-fourth parts*** of tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-seven and three-fourths parts*** of alcohol, sp. gr. '835, ***two and one-fourth parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

DULCAMARA. (*dul-ca-ma'ra.*)

NAT. ORDER, Solanaceæ.

SYN., Caules dulcamara, Dulcamara flexuosa, Dulcis-amara, Solanum dulcamara, S. lignosum, S. scandens, Vitis sylvestris.

VULG., Bitter-sweet, Bitter-sweet nightshade, Fellon wood, Garden nightshade, Nightshade, Scarlet berry, Violet bloom, Woody nightshade.

This perennial plant is an habitat of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '941, and ***six parts*** of the recently dried ***twigs.*** Chop up the twigs into small sections, bruise them thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ELAPS CORALLINUS. (*e'laps co-ral'li-nus.*)

ORDER, Ophidia.
CLASS, Reptilia.
FAMILY, Elapidæ.
SYN., E. venustissimus, Vipera corallina.
VULG., Brazilian coral-snake, Cobra coral, Coral viper.

The Preparations of the venom of this snake are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ELATERIUM. (*el-a-te'ri-um.*)

NAT. ORDER, Cucurbitaceæ.
SYN., Cucumis agrestis, C. asininus, Ecbalium agreste, E. elaterium, E. officinarum, Elaterium cordifolium, Momordica elaterium.
VULG., Squirting cucumber, Wild cucumber.

This perennial plant (*Momordica elaterium*) is indigenous to Southern Europe, and also is an habitat of both Europe and America.

The Preparations of the unripe fruit of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of the substance spontaneously deposited by the juice of the fresh fruit—*elaterium.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the unripe fruit. Bruise the fruit thoroughly in a Wedgewood mortar, express the juice and add alcohol, sp. gr. '835, until the specific gravity of the *mixture* is '941; then transfer the fruit to a suitable vessel and add sufficient alcohol, sp. gr. '941, until the fluid portion measures *sixteen parts*; macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the unripe fruit.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of elaterium. Deposit the elaterium in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of elaterium. Deposit the elaterium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

EPIGÆA REPENS. (*epi-ge'a re'pens.*

NAT. ORDER, Ericaceæ.

VULG., Gravel laurel, Gravel plant, Gravel weed, Ground laurel, Mayflower, Mountain pink, Trailing arbutus, Winter pink.

This plant is indigenous to North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Bruise the leaves thoroughly, transfer to a suitable vessel, *moisten* with hot (112° F) water, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts*

alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EQUISETUM ARVENSE. (*ec-we-se'tum ar-ven'se.*)

NAT. ORDER, Equisetaceæ.
VULG., Horse-tail rush.

EQUISETUM HYEMALE. (*ec-we-se'tum hy'e-male.*)

NAT. ORDER, Equisetaceæ.
VULG., Dutch rush, Horse tails, Polishing rush, Scouring rush, Shave grass.

These two cryptogamous plants are both habitats of Northern United States.

The Preparations of these plants are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. '941, and *four parts* of the *fresh* plant. Chop up the plant and bruise it thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this solution is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. 941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

ERECHTHITES HIERACIFOLIA. (*e-rek'thi-tes hi-rac-i-fo'lia.*

NAT. ORDER, Compositæ.
SYN., Senecio hieracifolius.
VULG., Fireweed, Firewood.

This plant is indigenous to North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of fireweed.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the *fresh* plant (in flower). Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add to it sufficient alcohol (sp. gr. '835), that the mixture shall have a specific gravity of '920. Transfer the bruised plant to a suitable vessel, and add the expressed juice and alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '920, that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '920, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '920, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—Fuse *one hundred parts* of simple ointment over a moderately hot fire. Bruise *ten parts* of fresh fireweed thoroughly, and add to the fat; simmer until the fat ceases sputtering, then strain and stir until cold.

ERIGERON CANADENSE. (*e-rig'er-on can-a-den'se.*)

NAT ORDER, Compositæ.

VULG., Blood stanch, Butter horse weed, Butter weed, Canada fleabane, Colt's tail, Flea bane, Horse weed, Mare's tail, Pride weed, Scabious.

This annual plant is indigenous to the United States and Canada. The plant is also an habitat of many parts of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the fresh plant. Bruise the plant thoroughly in a mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '920. Transfer the bruised plant to a suitable vessel and add the expressed juice together with sufficient alcohol, sp. gr. '920, that the fluid portion shall measure sixteen parts; macerate for fourteen days, express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '920, *two parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '920. *two parts* of the tincture the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

ERIODICTYON GLUTINOSUM. (*e-reo-dict'on glu-ti-no' sum.*)

NAT. ORDER, Hydrophyllaceæ.

SYN., Eriodyction californicum, Wigandia californica, Yerba santa.

This balsamic evergreen shrub is indigenous to the Pacific coast, growing in the mountain ranges from California to Mexico.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently gathered leaves. Bruise the leaves thoroughly, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered leaves.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ERYNGIUM AQUATICUM. (*e-rin'ge-um a-quat'i-cum.*)

NAT. ORDER, Umbelliferæ.

SYN., Eryngium petiolatum, E. præaltum, E. Virginianum, E. yuccæfolium.

VULG., Button snakeroot, Corn snakeroot, Rattlesnake master, Water eryngo, Water snakeroot.

This plant, an herbaceous perennial, is indigenous to North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Bruise thoroughly in an iron mortar, disintegrate, run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol; sp. gr. '835, *one part* of each succeeding dilution.

ERYNGIUM MARITIMUM. (*e-rin'ge-um ma-rit'i-mum.*)

NAT. ORDER, Umbelliferæ.

VULG., Sea eryngo, Sea holly.

This plant is indigenous to Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen part* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUCALYPTUS GLOBULUS. (*u-k-lip'tus glob'u-lus.*)

NAT. ORDER, Myrtaceæ.

SYN., Eucalyptus globosus.

VULG., Australian fever tree, Australian gum tree, Blue gum tree.

This tree is indigenous to Australia. It is an habitat of Southern Europe, of Southern United States and also of California.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the *recently* dried leaves. Run leaves through drug mill and reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with alcohol, firmly pack in a conical percolator; add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUGENIA JAMBOS. (*u-g'na jam'bos.*)

NAT. ORDER, Myrtaceæ.

SYN., Eugenia vulgaris, Myrtus jambos.

VULG., Malabar plumb tree, Narrow-leaved eugenia, Rose apple.

This plant is indigenous to the Indies, and tropical America.

The Preparations of the seeds of the fruit of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with alcohol and firmly pack in a conical percolator, and add the alcohol from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUONYMUS ATROPURPUREUS. (*u-on'i-mus at-ro-pur-pu're-us.*)

NAT. ORDER, Celastraceæ.

SYN., Euonymus caroliniensis, E. latifolius, E. tristis.

VULG., Bitter ash, Burning bush, Indian arrow wood, Purple spindle tree, Spindle bush, Spindle tree, Strawberry tree, Wahoo.

This shrub is indigenous to the Northern and Western United States.

The Preparations of the bark of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the twigs. Run bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water, allow to digest for an hour or two, then add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941. *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUONYMUS EUROPÆUS. (*u-on'i-mus u-ro-pe'us.*)

NAT. ORDER, Celastraceæ.
VULG., Spindle tree.

This shrub is an habitat of Europe.

The Preparations of the fruit of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the fresh fruit. Crush the fruit and *seeds* thoroughly in a Wedgewood mortar, express and strain off the juice and add sufficient alcohol that the mixture shall have the specific gravity of '920. Transfer the crushed fruit to a suitable vessel and add the expressed juice and alcohol, and sufficient alcohol, (sp. gr. '920) more, that the menstruum shall equal *sixteen parts.* Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fruit and seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPATORIUM AROMATICUM. (*u-pa-to'ri-um aro-mat'i-cum.*)

NAT. ORDER, Compositæ.
VULG., Pool root, White snakeroot.

This plant, growing along the Atlantic coast, is indigenous to the United States.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPATORIUM PERFOLIATUM. (*u-pa-to'ri-um per-fo-li-a'tum.*)

NAT. ORDER, Compositæ.
SYN., E. connatum, E. salviæfolium, E. virginicum.
VULG., Ague weed, Boneset, Crosswort, Feverwort, Indian sage, Joe-pye, (?) Sweating plant, Teasel, Thorough root, Thorough wax, Thoroughwort, Vegetable antimony.

This perennial plant is indigenous to the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of the recently dried herb. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112°F.) water, and digest for an hour or two and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

attention in preparing digitalis for the market, that it is so tenof insufficient."—*U. S. Disp.*

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, *six parts* of water, *two parts* of glycerin and *four parts* of the recently dried uncultivated leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, and transfer to a suitable vessel; mix the water and glycerin together, heat to 120° F., and with this *moisten* the powdered leaves; to the remaining portion of water and glycerin add sufficient alcohol that the specific gravity shall be '941; then add to the drug (when cold) and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DIOSCOREA. (*di-os-ko're-a.*)

NAT. ORDER, Dioscoreaceæ.

SYN., Dioscorea quinata, D. paniculata, D. villosa, Ubium quinatum.

VULG., China root, Colic root, Devil's bones, Hairy yam, Wild yam.

This perennial creeper is indigenous to North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions. Besides these there are the decimal and centesimal triturations of the resinoid *dioscorein.*

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried root. Run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the

second centesimal dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of dioscorein. Deposit the resinoid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of dioscorein. Deposit the resinoid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resinoid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

DIPSACUS SYLVESTRIS. (*dip'sa-cus syl-ves'tris.*)

NAT. ORDER, Dipsaceæ.

VULG., Wild teasel.

This plant is an indigene of Europe, Western Asia and Northern Africa. It is also an habitat of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* plant (in flower). Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution. to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DIRCA PALUSTRIS. (*dir'ca pa-lus'tris.*)

NAT. ORDER, Thymelaceæ.

VULG., Leather wood, Moose wood, Rope bark, Wicopy.

This shrub is indigenous to the United States.

The Preparations of the bark of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the twigs. Run bark through drug mill, reduce the bark to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DOLICHOS PRURIENS. (*dol'e-kos pru're-ens.*)

NAT. ORDER, Leguminosæ.

SYN., Carpopogon pruriens, Mucuna pruriens, M. prurita, Stitzolobium pruriens.

VULG., Cowhage, Cowitch, Kiwach.

This herbaceous climbing perennial is a native of tropical America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the hairs of the pods. Transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the hair of the pods.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DORYPHORA DECEMLINEATA. (*do-ry'pho-ra de-cem-lin-e'a-ta.*)

ORDER, Coleoptera.
CLASS, Insecta.
FAMILY, Chrysomelina.
VULG., Colorado beetle, Colorado potato bug, Potato bug.

The Preparations of this insect are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the living insects. Crush the insects in a Wedgewood mortar, transfer to a suitable vessel, and add the alcohol and macerate seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the living insect.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DRACONTIUM. (*dra-kon'she-um.*)

NAT. ORDER, Ictodes fœtidus, Pothos fœtidus, Symplocarpus fœtidus.
VULG., Bear's foot, Bear's leat, Collard, Cow collard, Fœtid hellebone, Irish cabbage, Itch weed, Meadow cabbage, Poke, Polecat collard, Polecat weed, Skoka, Skunk cabbage, Skunk weed, Stinking pothos, Swamp cabbage.

This perennial is indigenous to North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *recently* dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DROSERA. (*dro-se'ra.*)

NAT. ORDER, Droseraceæ.

SYN., Drosera capillaris, D. rotundifolia, Rorella rotundifolia, Ros solis.

VULG., Moorgrass, Red rot, Round-leaved sundew, Sundew, Youth wort.

This plant is an habitat of middle and Southern Europe, of Northern Asia and of some parts of North and South America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried plant (root, stalk, leaves and flowers). Run through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

DULCAMARA. (*dul-ca-ma'ra.*)

NAT. ORDER, Solanaceæ.

SYN., Caules dulcamara, Dulcamara flexuosa, Dulcis-amara, Solanum dulcamara, S. lignosum, S. scandens, Vitis sylvestris.

VULG., Bitter-sweet, Bitter-sweet nightshade, Fellon wood, Garden nightshade, Nightshade, Scarlet berry, Violet bloom, Woody nightshade.

This perennial plant is an habitat of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried *twigs.* Chop up the twigs into small sections, bruise them thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ELAPS CORALLINUS. (*e'laps co-ral'li-nus.*)

ORDER, Ophidia.
CLASS, Reptilia.
FAMILY, Elapidæ.
SYN., E. venustissimus, Vipera corallina.
VULG., Brazilian coral-snake, Cobra coral, Coral viper.

The Preparations of the venom of this snake are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ELATERIUM. (*el-a-te'ri-um.*)

NAT. ORDER, Cucurbitaceæ.
SYN., Cucumis agrestis, C. asininus, Ecballium agreste, E. elaterium, E. officinarum, Elaterium cordifolium, Momordica elaterium.
VULG., Squirting cucumber, Wild cucumber.

This perennial plant (*Momordica elaterium*) is indigenous to Southern Europe, and also is an habitat of both Europe and America.

The Preparations of the unripe fruit of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of the substance spontaneously deposited by the juice of the fresh fruit—*elaterium.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the unripe fruit. Bruise the fruit thoroughly in a Wedgewood mortar, express the juice and add alcohol, sp. gr. '835, until the specific gravity of the *mixture* is '941; then transfer the fruit to a suitable vessel and add sufficient alcohol, sp. gr. '941, until the fluid portion measures *sixteen parts*; macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the unripe fruit.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of elaterium. Deposit the elaterium in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of elaterium. Deposit the elaterium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

EPIGÆA REPENS. (*epi-ge'a re'pens.*

NAT. ORDER, Ericaceæ.

VULG., Gravel laurel, Gravel plant, Gravel weed, Ground laurel, May-flower, Mountain pink, Trailing arbutus, Winter pink.

This plant is indigenous to North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Bruise the leaves thoroughly, transfer to a suitable vessel, *moisten* with hot (112° F) water, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts*

alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EQUISETUM ARVENSE. (*ec-we-se'tum ar-ven'se.*)

NAT. ORDER, Equisetaceæ.

VULG., Horse-tail rush.

EQUISETUM HYEMALE. (*ec-we-se'tum hy'e-male.*)

NAT. ORDER, Equisetaceæ.

VULG., Dutch rush, Horse tails, Polishing rush, Scouring rush, Shave grass.

These two cryptogamous plants are both habitats of Northern United States.

The Preparations of these plants are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. '941, and *four parts* of the *fresh* plant. Chop up the plant and bruise it thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this solution is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. 941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

ERECHTHITES HIERACIFOLIA. (*e-rek'thi-tes hi-rac-i-fo'lia.*

NAT. ORDER, Compositæ.

SYN., Senecio hieracifolius.

VULG., Fireweed, Firewood.

This plant is indigenous to North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of fireweed.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the *fresh* plant (in flower). Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add to it sufficient alcohol (sp. gr. '835), that the mixture shall have a specific gravity of '920. Transfer the bruised plant to a suitable vessel, and add the expressed juice and alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '920, that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '920, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '920, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—Fuse *one hundred parts* of simple ointment over a moderately hot fire. Bruise *ten parts* of fresh fireweed thoroughly, and add to the fat; simmer until the fat ceases sputtering, then strain and stir until cold.

ERIGERON CANADENSE. (*e-rig'er-on can-a-den'se.*)

NAT ORDER, Compositæ.

VULG., Blood stanch, Butter horse weed, Butter weed, Canada flea-bane, Colt's tail, Flea bane, Horse weed, Mare's tail, Pride weed, Scabious.

This annual plant is indigenous to the United States and Canada. The plant is also an habitat of many parts of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the fresh plant. Bruise the plant thoroughly in a mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '920. Transfer the bruised plant to a suitable vessel and add the expressed juice together with sufficient alcohol, sp. gr. '920, that the fluid portion shall measure sixteen parts; macerate for fourteen days, express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '920, *two parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '920. *two parts* of the tincture the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

ERIODICTYON GLUTINOSUM. (*e-reo-dict'on glu-ti-no' sum.*)

NAT. ORDER, Hydrophyllaceæ.

SYN., Eriodyction californicum, Wigandia californica, Yerba santa.

This balsamic evergreen shrub is indigenous to the Pacific coast, growing in the mountain ranges from California to Mexico.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently gathered leaves. Bruise the leaves thoroughly, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ERYNGIUM AQUATICUM. (*e-rin'ge-um a-quat'i-cum.*)

NAT. ORDER, Umbelliferæ.

SYN., Eryngium petiolatum, E. præaltum, E. Virginianum, E. yuccæfolium.

VULG., Button snakeroot, Corn snakeroot, Rattlesnake master, Water eryngo, Water snakeroot.

This plant, an herbaceous perennial, is indigenous to North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Bruise thoroughly in an iron mortar, disintegrate, run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol; sp. gr. '835, *one part* of each succeeding dilution.

ERYNGIUM MARITIMUM. (*e-rin'ge-um ma-rit'i-mum.*)

NAT. ORDER, Umbelliferæ.

VULG., Sea eryngo, Sea holly.

This plant is indigenous to Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen part* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUCALYPTUS GLOBULUS. (*u-k-lip'tus glob'u-lus.*)

NAT. ORDER, Myrtaceæ.

SYN., Eucalyptus globosus.

VULG., Australian fever tree, Australian gum tree, Blue gum tree.

This tree is indigenous to Australia. It is an habitat of Southern Europe, of Southern United States and also of California.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the *recently* dried leaves. Run leaves through drug mill and reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with alcohol, firmly pack in a conical percolator; add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUGENIA JAMBOS. (*u-g'na jam'bos.*)

NAT. ORDER, Myrtaceæ.

SYN., Eugenia vulgaris, Myrtus jambos.

VULG., Malabar plumb tree, Narrow-leaved eugenia, Rose apple.

This plant is indigenous to the Indies, and tropical America.

The Preparations of the seeds of the fruit of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with alcohol and firmly pack in a conical percolator, and add the alcohol from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUONYMUS ATROPURPUREUS. (*u-on'i-mus at-ro-pur-pu're-us.*)

NAT. ORDER, Celastraceæ.

SYN., Euonymus caroliniensis, E. latifolius, E. tristis.

VULG., Bitter ash, Burning bush, Indian arrow wood, Purple spindle tree, Spindle bush, Spindle tree, Strawberry tree, Wahoo.

This shrub is indigenous to the Northern and Western United States.

The Preparations of the bark of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the twigs. Run bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water, allow to digest for an hour or two, then add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941. *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUONYMUS EUROPÆUS. (*u-on'i-mus u-ro-pe'us.*)

NAT. ORDER, Celastraceæ.

VULG., Spindle tree.

This shrub is an habitat of Europe.

The Preparations of the fruit of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the fresh fruit. Crush the fruit and *seeds* thoroughly in a Wedgewood mortar, express and strain off the juice and add sufficient alcohol that the mixture shall have the specific gravity of '920. Transfer the crushed fruit to a suitable vessel and add the expressed juice and alcohol, and sufficient alcohol, (sp. gr. '920) more, that the menstruum shall equal *sixteen parts*. Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fruit and seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPATORIUM AROMATICUM. (*u-pa-to'ri-um aro-mat'i-cum.*)

NAT. ORDER, Compositæ.

VULG., Pool root, White snakeroot.

This plant, growing along the Atlantic coast, is indigenous to the United States.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPATORIUM PERFOLIATUM. (*u-pa-to'ri-um per-fo-li-a'tum.*)

NAT. ORDER, Compositæ.

SYN., E. connatum, E. salviæfolium, E. virginicum.

VULG., Ague weed, Boneset, Crosswort, Feverwort, Indian sage, Joe-pye, (?) Sweating plant, Teasel, Thorough root, Thorough wax, Thoroughwort, Vegetable antimony.

This perennial plant is indigenous to the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of the recently dried herb. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112°F.) water, and digest for an hour or two and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPATORIUM PURPUREUM.* (*u-pa-to'ri-um pur-pur'e-um.*)

NAT. ORDER, Compositæ.

VULG., Gravel root, Joe-pye, Joe-pye weed, Purple boneset, Queen of the meadow, Trumpet weed.

This perennial herbaceous plant is an habitat of the United States.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPHORBIA AMYGDALOIDES. (*u-phor'be-a a-mig-da-loi'des.*)

NAT. ORDER, Euphorbiaceæ.

VULG., Almond-leaved Spurge, Spurge.

This plant is an habitat of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

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* *Eupurpurin* is an oleo-resin prepared from a saturated alcoholic tincture. *Eupatorine* is the resinoid, obtained by precipitating the so-called active principle from a saturated alcoholic tincture with water acidulated with hydrochloric acid. The name *Eupatorin* has been suggested to designate the active principle (resinoid) of the *eupatorium perfoliatum*.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (whole) plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPHORBIA COROLLATA.* (*u-phor'be-a cor-ol-la'ta.*)

NAT. ORDER, Euphorbiaceæ.

VULG., Blooming spurge, Bowman's root, Flowering spurge, Large flowering spurge, Milk weed, Wandering milk weed, Wild hippo, Wild ipecac.

This plant, an herbaceous perennial, is an habitat of the United States.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPHORBIA CYPARISSIAS. (*u-phor'be-a si-pa-ris'si-as.*)

NAT. ORDER, Euphorbiaceæ.

VULG., Cypress spurge.

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* This plant, the *Euphorbia corollata*. is not to be confounded with the *euphorbia ipecacuanha*; this, is another species of the same Nat. Order.

EUPHORBIA HYPERICIFOLIA. (*u-phor'be-a hy-per-i si-fo'lia.*)

NAT. ORDER, Euphorbiaceæ.

VULG., Hypericum-leaved spurge, Large spotted spurge, Milk parsley, Spurge.

These, the above two species of euphorbia are both indigenous to the United States.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (whole) plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPHORBIA VILLOSA. (*u-phor'be-a vil-lo'sa.*)

NAT. ORDER, Euphorbiaceæ.

SYN., Euphorbia pilosa, E. sylvestris.

VULG., Greater Russian spurge, Spurge.

This plant is indigenous to Southern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of the recently dried root. Run root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPHORBIUM OFFICINARUM. (*u-phor'bi-um of-fic-i-na'rum.*)

NAT. ORDER, Euphorbiaceæ.

SYN., Euphorbia resinifera, E. tenella, Euphorbium, E. polygonum, Gum euphorbium.

VULG., Spurge.

This substance is the concrete juice of a species of the euphorbia which is indigenous to Northern Africa.

The Preparations of this gum resin are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the resin. Powder the resin coarsely, transfer to a suitable vessel and add *twelve parts* alcohol and macerate for fourteen days; filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the resin.

DILUTIONS—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPHRASIA OFFICINALIS. (*u-fra'sia of-fic-i-na'lis.*)

NAT. ORDER, Scrophulariaceæ.

SYN., Euphragia alba, Euphrasia candida, E. latifolia, E. pratensis, E. pusilla.

VULG., Eyebright.

This plant, an annual, is an habitat of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water and digest for an hour or two, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts*

alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

EUPION. (*u-pe'on.*)

Formula.—$C^5 H^6$.

This limpid, colorless liquid is one of the products of the dry distillation of either animal or wood tar.

The Preparations of this substance are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of eupion; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the eupion; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

FAGOPYRUM ESCULENTUM. (*fa-go'pi-rum es-cu-len'tum.*)

NAT. ORDER, Polygonaceæ.
SYN., Polygonum fagopyrum.
VULG., Buckwheat.

This plant, an annual, is indigenous to Asia.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh (whole), mature plant. Bruise thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alco-

hol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

FEL TAURI.* (*fel taw'ri.*)

SYN., Bilis bovina, Fel bovinum, Fel bovis.

VULG., Ox bile, Ox gall.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of inspissated ox gall. Deposit the ox gall in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of ox gall. Deposit the ox gall in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the ox gall, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRI ET AMMONIÆ CITRAS. (*fer'ri et am-mo'nia ci'tras.*)

VULG., Citrate of iron and ammonia.

The Preparations of this compound salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

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* FEL BOVIS PURIFICATUM.—*Purified Ox Gall.*—" Fresh ox gall *three parts*, alcohol *one part*. Evaporate the ox gall in a porcelain capsule, or a water bath, to *one part*, then add to it the alcohol, agitate the mixture thoroughly, and let stand, well covered, for twenty-four hours. Decant the clear solution, filter the remainder, and, having mixed the liquids and distilled off the alcohol, evaporate to a pilular consistence."—*U. S. Pharm.*

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRI ET STRYCHNIÆ CITRAS. (*fer'ri et strych'nia ci'tras.*)

VULG., Citrate of iron and strychnine.

The Preparations of this compound salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM ACETICUM. (*fer'rum a-cet'i-cum.*)

SYN., Ferri acetas, Ferric acetate, Ferrum oxydatum aceticum.

VULG., Acetate of iron.

Formula.—$Fe^2\ 6\ C^2\ H^3\ O^2$.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acetate of iron. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acetate of iron. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM ARSENICICUM. *(fer'rum ar-sen-e-ci'cum.)*

SYN., Ferri arsenias, Ferrous arseniate, Ferrum arseniatum, Tri-ferric diarseniate.

VULG., Arseniate of iron.

Formula.—$Fe^3 2 As O^4$.

Tests.—Dissolved in water, acidulated with hydrochloric acid the solution should *not* yield a precipitate when treated with a solution of chloride or nitrate of barium; thus showing the absence of a *sulphate* (sodium).

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the arseniate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one* *part* of the arseniate. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM BROMATUM. (*fer'rum bro-ma'tum.*)

SYN., Ferri bromidum, Ferri bromicum.

VULG., Bromide of iron.

Formula.—Fe Br^2; 216.

This salt is prepared by gently warming a mixture of iodine and distilled water, to which there has been added finely divided iron wire. When combination is quite perfected the solution is filtered, and then evaporated until it is sufficiently dense to solidify on cooling.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the bromide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the bromide. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM CARBONICUM SACCHARATUM. (*fer'rum carbon'i-cum sac-ka-ra'tum.*)

SYN., Ferri carbonas saccharata.

VULG., Saccharated carbonate of iron.

To prepare this salt, gradually add to a boiling solution of pure sulphate of iron—(one part to four) a *recently* boiled solution of bicarbonate of soda (one part to twelve) so long as a precipitate is thus formed. Set aside the mixture for two hours; then decant the fluid portion and add a similar quantity of hot distilled water, recently *boiled*, agitating the mixture thoroughly and again set aside for two hours. Repeat the washing process, adding hot distilled water and decanting until the liquid gives but a slight turbidity when treated with a solution of chloride of barium. The moist precipitate (ferrous carbonate) is now transferred to a porcelain capsule, and finely powdered sugar is added in the following proportion: *One part* of the (dry) carbonate to *two parts* of the sugar; and by means of a water bath the moisture is evaporated.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *seven parts* of milk sugar *three parts* of the saccharated carbonate. Deposit the salt in a porcelain mortar, and add *two and one-third parts* of milk sugar and steadily triturate for ten minutes; add *two and one-third parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar. and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-seven parts* of milk sugar to *three parts* of the saccharated carbonate. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-two and one-third parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM IODATUM. (*fer'rum i-o-da'tum.*)

SYN., Ferri iodidum, Ferrous iodide, Iodetum ferrosum.

VULG., Iodide of iron.

Formula.—$Fe I^2$; 310.

"The officinal *ferri iodidum* is formed by gently warming a mixture of three parts of iodine, one and one-half of iron wire, and twelve of distilled water in an iron vessel. When combination is nearly complete (as shown by indication of a sea-green tint), boil for a short time until the whiteness of the froth proves that the iodine has entirely disappeared. The solution is then filtered and evaporated in a clean, bright iron saucepan, ladle, or dish, until a drop taken out on the end of an iron wire stirrer solidifies on cooling. The liquid is poured out on a clean smooth slab, broken up and preserved in a glass-stoppered bottle. Solid iodide of iron has a crystalline fracture, is green, with a tinge of brown; inodorous, deliquescent, and almost entirely soluble in water, forming a slightly green solution which gradually deposits a colored sediment and acquires a red color."—*Attfield.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of cane sugar *one part* of the iodide. Deposit the salt in a porcelain mortar, and add *three parts* of cane sugar and steadily triturate for ten minutes; add *three parts* more of cane sugar and again triturate for ten minutes; then add balance of cane sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of cane sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of cane sugar and steadily triturate for fifteen minutes; add *three parts* more of cane sugar and again triturate for fifteen minutes; then add balance of cane sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of cane sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of cane sugar to *one part* of the iodide. Deposit the iodide in a porcelain mortar, and divide the cane sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of cane sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM LACTICUM. (*fer'rum lac'ti-cum.*)

SYN., Ferri lactas, Ferrous lactate, Lactas ferrosus, Oxydull ferri.
VULG., Lactate of iron.

Formula.—$Fe\ 2\ C^3\ H^5\ O^3,\ 3\ H^2\ O$; 288.

This salt is formed by digesting (on a water bath) iron filings in a mixture of one part of lactic acid and fifteen parts of distilled water; when action has ceased, the solution is to be filtered and set aside to cool and subsequently crystallize. The greenish-white crystals are soluble in forty-eight parts of water 59° F., and in twelve parts of water 212° F.

The Preparations of this salt are the decimal and centesimal triturations.

Triturations.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the lactate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the lactate. Deposit the lactate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM MAGNETICUM. (*fer'rum mag-net'i-cum.*)

SYN., Ferroso-ferric oxide, Ferri oxidum magneticum, Ferrum oxydulatum magneticum, Lapis magneticus, Tri-ferrotetroxide.

VULG., Black hydrate of iron, Loadstone, Magnetic oxide of iron.

Formula.—Fe^3 8 HO Fe 2 HO, Fe^2 6 HO; 232.

This oxide is artificially formed by adding to a solution of persulphate of iron, a solution of sulphate of iron and subsequently stirring in an alkali solution which is added in excess; the mixture is now boiled and then set aside that the minute crystals of the magnetic oxide may precipitate.

The Preparations of this oxide are the decimal and centesimal triturations.

Triturations.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oxide. Deposit the oxide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oxide. Deposit the oxide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the oxide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM MURIATICUM. (*fer'rum mu-ri-at'i-cum.*)

SYN., Chloridum ferricum, Chloruretum ferricum, Ferric chloride, Ferri perchloridum, Ferrous chloride or di-chloride, Ferrum chloratum, F. muriaticum oxydatum, F. sesquichloratum, Hydrochloras ferri, Murias ferri, Oleum martis. Sal martis liquidum.

VULG., Hydrochlorate of iron, Muriate of iron, Perchloride of iron, Sesquichloride of iron, Trichloride of iron.

Formula.—$Fe^2\ Cl^6\ 12\ H^2\ O$; 540.2.

This crystalline acid salt of iron is prepared as follows:

"Iron wire *fifteen parts;* hydrochloric acid *eighty-six parts;* nitric acid and distilled water each *a sufficient quantity.* Put the iron wire into a flask capable of holding double the volume of the intended product, pour upon it *fifty-four parts* of hydrochloric acid previously diluted with *twenty-five parts* of water, and let the mixture stand until effervescence ceases; then heat it to the boiling point, filter through paper, and, having rinsed the flask and iron wire with a little boiling distilled water, pass the rinsings through the filter. To the filtered liquid add *twenty-seven parts* of hydrochloric acid and pour the mixture slowly and gradually, in a stream, into *eight parts* of nitric acid contained in a capacious porcelain vessel. After effervescence ceases, apply heat, by means of a sand bath, until the liquid is free from nitrous odor; then test a small portion with freshly prepared test solution of ferrocyanide of potassium. Should this reagent produce a blue color, add a little more nitric acid and evaporate off the excess. Then add the remaining *five parts* of hydrochloric acid, and enough distilled water to make the whole weigh *sixty parts,* and set this aside, covered with glass, until it forms a solid, crystalline mass. Lastly, break it into pieces and keep the fragments in a glass-stoppered bottle protected from light."—*U. S. Pharm.*

Tests.—A solution of this salt mixed with an equal volume of sulphuric acid should not cause any brownish-black zone to form around a crystal of ferrous sulphate when added to the solution; thus showing the absence of *nitric acid.* On the addition of a few drops of the solution of ferrocyanide of potassium a *greenish-brown* and *not* a blue color should be thus produced, showing thereby the absence of a *ferrous salt.*

The Preparations of this salt are the decimal and centesimal solution and their subsequent decimal and centesimal dilutions.

SOLUTIONS.—To *nine parts* of alcohol, sp. gr. '835, add *one part* of the muriate of iron; to *ninety-nine parts* of alcohol, sp. gr. '835, add *one part* of the muriate of iron. These two solutions, in drug strength, equal the first decimal and first centesimal dilutions.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* alcohol, sp. gr. '835, *one part* of the first centesimal *solution;* the *third centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the second centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol; sp. gr. '835, *one part* of each succeeding dilution.

FERRUM PHOSPHORICUM. (*fer'rum fos-four'i-cum.*)

SYN., Ferri phosphas, Ferrosoferric phosphate, Ferrous hydric phosphate, Phosphas ferroso-ferricus.

VULG., Phosphate of iron.

Ferric phosphate is formed by dissolving on a water bath about equal parts of citrate of iron and phosphate of soda in double the quantity of distilled water. The solution is slowly evaporated, at a temperature not exceeding 140° F., and when of the density of honey is spread on plates of glass to dry. This salt should be kept in well-closed bottles, protected from the light.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the phosphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate. Deposit the phosphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM PYROPHOSPHORICUM. (*fer'rum pyro-fos-four' i-cum.*)

SYN., Ferri pyrophosphas.

VULG., Pyrophosphate of iron.

This ferric salt is formed in the same manner as the *ferric phosphate;* pyrophosphate of sodium being substituted for the *phosphate* of sodium.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the pyrophosphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the pyrophosphate. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM REDACTUM. (*fer'rum re-dac'tum.*)

SYN., (Ferrum metallicum), Ferrum hydrogenio reductum, F. reductum.

VULG., Iron by hydrogen, Reduced iron.

The Preparations of iron by hydrogen are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of reduced iron. Deposit the iron in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the iron, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FERRUM SULPHURICUM. (*fer'rum sul-fu'ri-cum.*)

SYN., Ferri sulphas, Ferrous sulphate, Ferrum vitriolatum, Sulphas ferrosus, Vitriolum martis, Vitriolum viride.

VU G., Copperas, Green vitriol, Sulphate of iron.

Formula.—$Fe\,SO^4,\ 7\ H^2\,O$; 278.

The Preparations of this salt are the *recently prepared* decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the unoxidized sulphate. Deposit the sulphate in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the unoxidized sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed fo: the *first centesimal* trituration.

FERULA GLAUCA. (*fer'u-la glau'ka.*)

NAT. ORDER, Umbelliferæ.

SYN., Bonnafa, Ferula neapolitana.

VULG., Glaucous giant fennel.

This plant is an habitat of Southern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

FILIX MAS. *fi'lix mas.)*

NAT. ORDER, Filices.

SYN., Aspidium filix mas, Dryopteris filix mas, Lastrea filix mas, Nephrodeum filix mas, Polypodium filix mas.

VULG., Male fern.

This plant is indigenous to Europe, Asia and Africa, and is also an alleged habitat of Eastern United States.

The Preparations of the root of this plant are the oleoresin and its decimal and centesimal triturations.

The Oleoresin.—To prepare the oleoresin take *seventy-five parts* of *Æther fortier*, sp. gr. '728, and *twenty-five parts* of the *recently dried* root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water and firmly pack in a *closed* conical percolator* and add the ether from time to time, until the percolate equal *sixty parts;* now add sufficient water to the powdered root to force downward any remaining menstruum; transfer the percolate to a glass retort, place on a sand bath, and recover two-thirds of the ether. Again transfer the oleoresin to a capsule and evaporate the remaining ether.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oleoresin. Deposit the oleoresin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oleoresin. Deposit the oleoresin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

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*See "Special" Percolator, Fig. 21, p. 16, Part I.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

FRAGARIA VESCA. (*fra-ga'ria ves'ca.*)

NAT. ORDER, Rosaceæ.
SYN., Fragulæ, Trifolii fragiferi.
VULG., Strawberry.

This perennial plant is an habitat of both Europe and America.

The Preparations of the fruit* and leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, *six parts* of the ripe *fruit* and *two parts* of the fresh leaves. Bruise the fruit and leaves thoroughly in a Wedgewood mortar, express the juice and add to it sufficient alcohol that the mixture shall have the specific gravity of '941. Transfer the fruit and leaves to a suitable vessel, and add the expressed juice and alcohol together with enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate for fourteen days; express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fruit and leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

FRASERA CAROLINENSIS. (*fra-se'ra car-o-lin-en'sis.*)

NAT. ORDER, Gentianaceæ.
SYN., Frasera walteri, Swertia difformis.
VULG., American columbo, Colombo (?), Indian lettuce.

This plant is indigenous, growing in the Middle and Southwestern United States.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried *second year growth* root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

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* A tincture of the *fruit* only, is recommended in other pharmacopœias. Such a tincture is simply an alcoholic solution of the fruit acids; citric and malic acids.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

FRAXINUS AMERICANA. (*frax'i-nus a-mer-i-can'a.*)

NAT. ORDER, Oleaceæ.

SYN., Fraximus acuminata, F. alba, F. canadensis, F. caroliniana, F. discolor, F. epiptera, F. juglandifolia, F. novæ angliæ.

VULG., White ash.

This large forest tree is an habitat of Northern United States and Canada.

The Preparations of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried *inner* bark of the tree. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

FUCUS VESICULOSUS. (*fu'cus ves-i-cu-lo'sus.*)

NAT. ORDER, Algæ.

SYN., Quercus marina.

VULG., Black tang, Bladder wrack, Bladder fucus, Sea wrack, Kelp ware, Sea kelp, Sea ware.

This species of alga is found attached to the rocks on the sea coasts of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *recently* dried sea wrack. Bruise the plant thoroughly in an iron mortar, transfer to a suitable vessel and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried sea wrack.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

FULIGO COMMUNIS. (*ful-i'go com-mu'nis.*)

VULG., Soot.

The Preparations of soot are the decimal and centesimal triturations. Besides these, there is an *ointment of soot.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of soot. Deposit the soot in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of soot. Deposit the soot in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the soot, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *ninety parts* of benzoated lard, add *ten parts* of soot. Mix, and thoroughly incorporate the soot.

GALIUM APARINE. (*ga'li-um a-pa-ri'ne.*)

NAT. ORDER, Rubiaceæ.

VULG., Catch weed, Clabber grass, Cleavers, Cleaver's bees, Clider Cliver's root, Goose grass, Goose hare, Gravel grass, Harif, Milk sweet, Poor robin, Robin run the hedge, Savoyan.

This annual plant is an habitat of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add to it a sufficient quantity of alcohol that the mixture shall have the specific gravity of '941. Transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and a sufficient quantity more of alcohol (sp. gr. '941), that the tincture shall equal *sixteen parts.* Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GALBANUM OFFICINALE. (*gal'ba-num of-fic-i-na'le.*)

NAT. ORDER, Umbelliferæ.

SYN., Galbanum, Gummi metopium.

This substance is supposed to be the concrete juice of an undetermined plant growing on the Mediterranean coast. By some, it is thought to be obtained from the plant *ferula galbaniflua.*

The Preparations of this gum-resin are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of galbanum. Transfer the gum-resin to a suitable vessel and add the alcohol, and macerate (occasionally agitating the mixture) for seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the gum-resin.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to

ninety-nine parts of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol' sp. gr. '835, *one part* of each succeeding dilution.

GAMBOGIA. (*gam-bo' ge-a.*)

NAT. ORDER, Guttiferæ.

SYN., Cambogia, Catharticum aurem, Gummi gutti, G. victoria, Gutti gamba.

VULG., Gamboge.

This gum-resin is supposed to be the concrete juice from the *garcinia morella*, a tree indigenous to Siam and Cochin China.

The Preparations of this gum-resin are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of gamboge. Transfer the gum-resin to a suitable vessel and add the alcohol and macerate (occasionally agitating the mixture) for seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the gum-resin.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of gamboge. Deposit the gamboge in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of gamboge. Deposit the gamboge in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the gum-resin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

GARRYA FREMONTII. (*gar-re'a fre-mon'ti*).

NAT. ORDER, Garryaceæ.

VULG., California quinine bush, Garrya leaves.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GELSEMIUM. (*gel-se'mi-um.*)

NAT. ORDER, Loganiaceæ.

SYN., Anonymous sempervirens, Bignonia sempervirens, Gelsemium luteum odoratum, G. lucidum, G. nitidum, G. sempervirens, Jesminum luteum odoratum, Lisianthus sempervirens.

VULG., Bignonia, Carolina jessamine, Field jessamine, Wild jessamine, Woodbine, Yellow jessamine.

This perennial climbing plant is an habitat of the Southern States of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the *fresh* young rootlets. Chop up the young roots and bruise them thoroughly in a brass mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the *fresh* root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the

second centesimal dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GENISTA TINCTORIA. (*ge-nis'ta tinc-to'ri-a.*)

NAT. ORDER, Leguminosæ.

VULG., Dyer's broom, Dyer's weed, Dyer's green weed, Green weed, Green wood.

This plant, a low shrub, is an habitat of Northern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (whole) plant. Run the plant through drug mill, reduce to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GENTIANA CRUCIATA. (*jen-she-a'na kru-si-a'ta.*)

NAT. ORDER, Gentianaceæ.

SYN., Gentiana minoris.

VULG., Crosswort gentian.

GENTIANA LUTEA. (*jen-she-a'na lu'te-a.*)

NAT. ORDER, Gentianaceæ.

SYN., Gentiana lutetia, G. majoris, G. rubra.

VULG., Bitter root, Common gentian, Great yellow gentian, Yellow gentian.

These plants, both of them, are habitats of Europe. The latter species grow luxuriantly among the Alps and Pyrenees.

The Preparations of these plants are the tinctures of the root and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GERANIUM MACULATUM. (*ge-ra'ne-um mac-u-la'tum.*)

NAT. ORDER, Geraniaceæ.

SYN., Geranium pusillum.

VULG., Alum root, Crane's bill, Crowfoot, Geranium, Spotted crane's bill, Spotted geranium, Stork's bill, Tormentilla, Wild crane's bill.

This plant is indigenous to the United States.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GERANIUM ROBERTIANUM. (*ge-ra'ne-um Rob-ert-i-a'num.*)

NAT. ORDER, Geraniaceæ.

SYN., G. inodoratum (?).

VULG., Herb Robert.

This plant is indigenous to Europe. The American plant, although similar, differs with it in not possessing so rank an odor.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (whole) plant. Run the plant through drug mill, reduce to a moderately coarse powder. transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

GINSENG. (*gin'seng.*)

NAT. ORDER, Araliaceæ.

SYN., Aralia quinquefolia, Panax americanum, P. ginseng, P. quinquefolium.

VULG., Chinese physic, Five fingers, Garantogen, Gensang, Ninsin, Red berry, Tartar root.

This plant, a perennial, is indigenous to the Middle and Northern States of North America. It is alleged to be largely exported to China from Ohio and Western Virginia. The supposed active principle is termed *panaquilon*.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GLECHOMA HEDERACEA. (*glee-ko'ma hed-e-ra'she-a.*)

NAT. ORDER, Labiatæ.

SYN., Nepeta glechonea, Panacea pectoris.

VULG., Gill, Gill-go-by-the-ground, Gill-go-over-the-ground, Ground Ivy, Robin runaway.

This perennial herb is indigenous to both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '941, and *four parts parts* of the recently dried plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel. add the alcohol, macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 25 per cent; or, each minim contains the medicinal properties of ***one-fourth grain*** of the recently dried plant.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***six parts*** alcohol, sp. gr. '941, ***four parts*** of the tincture; the ***second*** decimal dilution, to ***nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** of alcohol, sp. gr. '941, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

GLONOINUM. (*glon-o-i'num.*)

SYN., Glonoin, Glonoine, Nitro-glycerinum.

VULG., Nitro-glycerin.

Formula.—$C^3 H^5 (NO^2)^3 O^3$; 227.

This substance, having a sp. gr. '160 at (15° C.) 59° F., is chemically prepared from a mixture composed of one part of nitric acid, sp. gr. '147, two parts of sulphuric acid, sp. gr. '184, to which there is gradually added sixteen avoirdupois ounces of pure glycerin. The glycerin is added cautiously thus preventing a rise of temperature exceeding 80° F., and, the mixture being frequently stirred, is finally poured into a large quantity of water where it is subsequently washed on the addition of a small per cent of alkali.

Whew!
Bang!

The Preparations of nitro-glycerin are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***nine parts*** alcohol, sp. gr. '835, ***one part*** of pure nitro-glycerin; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. 835, ***one part*** of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of pure nitro-glycerin; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GNAPHALIUM POLYCEPHALUM. (*na-fa' le-um poly-se' fa-lum.*)

NAT. ORDER, Compositæ.

VULG., Common life-everlasting, Indian posey, Sweet-scented life-everlasting.

This plant, an annual, is an habitat of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GOSSYPIUM HERBACEUM. (*gos-sip' i-um her-ba' she-um.*)

NAT. ORDER, Malvaceæ.

SYN., Lana gossypii.

VULG., Cotton plant.

This biennial plant is a native of Asia. It is also an habitat of the Southern States of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried inner bark of the root. Run the bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried inner bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GRANATUM. (*gra-na'tum.*)

NAT. ORDER, Granateæ.
SYN., Peenica granatum.
VULG., Pomegranate.

This shrub is indigenous to the country bordering the Mediterranean Sea. Being first introduced into the East and West Indies, it is now largely cultivated for both medicinal and ornamental purposes in every clime sufficiently warm for its fruit to ripen.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GRAPHITES. (*graf-i'tees.*)

SYN., Carbo mineralis, Carbon amorphous, Cerussa nigra, Ferri carburetum, Plumbago.
VULG., Black lead (?), Carburet of iron.

This substance, a native mineral carbon, is found in its greatest purity in Borrowdale mine, England. It is also found in a very pure state in this country near Bustleton, Pennsylvania.

The Preparations of this mineral are the decimal and centesimal triturations.* Besides these, there is an *ointment of graphites.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the carburet of iron Deposit the graphite in a porcelain mortar, and add *three parts* of coarse milk sugar, *moisten* with water, and steadily triturate for twenty minutes; add *three parts* more of milk sugar (fine) and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *seventy-five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of finely powdered carburet of iron. Or, to *ninety parts* of simple ointment add *ten parts* of finely powdered carburet of iron. Forming the ointment, add when cold to the graphite in small quantities; thoroughly incorporating the same with the graphite on each successive addition.

GRATIOLA OFFICINALIS. (*grash'e-o-la of-fic-i-na'lis.*)

NAT. ORDER, Scrophulariaceæ.
SYN., Centauroidis, Digitalis minima.
VULG., Hedge hyssop.

This perennial herb is indigenous to Central and Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the recently dried (whole) plant. Run the plant through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

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* For medicinal use, the native graphite must be first finely powdered then boiled for an hour or two in clean distilled water. Decanting the water the graphite must then be digested for several hours in diluted nitro-muriatic acid, after which it should be thoroughly washed with distilled water and dried.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GRINDELIA ROBUSTA. (*grin-de'lia ro-bus'ta.*)

NAT. ORDER, Compositæ.
VULG., Grindelia.

This balsamic plant is an habitat of the mountainous regions bordering the Pacific coast.

The Preparations of the leaves and flowering tops of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '860, and *six parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with alcohol, sp. gr. '860, and firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downwards that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '860, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '860, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '860, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '860, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GRINDELIA SQUARROSA. (*grin-de'lia squar-ro'sa.*)

NAT. ORDER, Compositæ.
VULG., Grindelia.

This species of grindelia is an habitat of the plains. It is found growing extensively throughout Oregon, Utah, and Wyoming Territory.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

GUACO. (*gwa'co.*)

NAT. ORDER, Compositæ.

SYN., Mikania guaco.

This plant is indigenous to tropical America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the fresh herb.* Bruise the leaves thoroughly in a Wedgewood mortar, express the juice and add to it sufficient alcohol, sp. gr. '835, that the mixture shall have the specific gravity of '941. Transfer the bruised leaves to a suitable vessel and add the expressed juice and alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol more that the tincture shall equal *sixteen parts*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh herb.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol; sp. gr. '835, *one part* of each succeeding dilution.

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* The medical virtues of this plant are alleged to be impaired by drying. Recently gathered leaves, however, partly dry, might be used affording a reliable tincture.

GUAIACUM. (*gwa'a-kum.*)

NAT. ORDER, Zygophyllaceæ.

SYN., Guaicum officinale, Lignum guaiaci, L. indicum, L. sanctum, L. nitæ, Palus sanctus.

VULG., Guaiac.

This substance is the concrete juice of *guaiacum officinale.*

The Preparations of this resinous concrete juice are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of guaiac. Reduce the guaiac to a moderately coarse powder, add an equal amount of clean, dry sand, loosely pack in a conical percolator then cover the contents with a moderately thick layer of sand, and gradually add the alcohol until the percolate equals *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the concrete juice of guaiacum officinale.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GUANO. (*gwa'no.*)

VULG. Guano.

This substance,* the partially decomposed excrements of

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*"In South America, guano has been used with benefit, internally and externally, as a remedy in the different forms of lepra. The late Prof. Horner of Philadelphia, employed it as a cataplasm, mixed with an equal quantity of potter's clay, in a case of chronic inflammation of the knee-joint. In this proportion it blistered the surface; and cataplasms were afterwards adopted, containing one-third and one-fourth of guano (*Med. Exam.*, Feb., 1852). Prof. Horner attributed the resultive effect of the guano to urate of ammonia; but the best of authorities state that oxalate of ammonia is the characteristic salt of the substance. Since 1852 guano has been a good deal used in cutaneous diseases, especially ecthyma, eczema and tinea capitis. It is employed in the form of bath, lotion and ointment. Recamier prescribes baths in these diseases, each bath containing sixteen ounces of guano; and the practice has been imitated with success by M. Desmartis, and by M. Van der Abeele of Belgium. The lotion may be made by exhausting an ounce of guano with a pint of boiling water, and filtering the solution. The ointment is formed of various strengths, from one to five parts of guano to fifteen of lard. M. C. Girardin prepared an extract of guano by exhausting it with alcohol, diluted with twice

aquatic birds, according to an analysis made by Fownes, contains oxalate of ammonia and earthy and alkaline phosphates in proportions of about two-thirds of the former to one-third of the latter.

The Preparations of Peruvian guano are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the guano. Deposit the guano in a porcelain mortar; and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the guano. Deposit the guano in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the guano, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

GUARANA. (*gwa-ran'a.*)

NAT. ORDER, Sapindaceæ.
SYN., Paullinia sorbilis.
VULG. Brazilian cocoa.

The substance thus designated by the name *guarana* is the bitter extractive matter obtained from the dry seeds of the paullinia sorbilis. The active principle *paullinia* (guaranin), from the generic name of the plant, is alleged to be chemically identical with *caffein.*

The Preparations of guarana are the decimal and centesimal triturations.

its bulk of water, and evaporating the solution to dryness. Of this extract he makes an ointment, useful in eruptions, by mixing it with three parts of lard, and also a syrup flavored with vanilla, of which the dose is a fluidrachm, containing a gram of the extract, to be given in scrofula. The variable composition of guano must always form a serious objection to its therapeutic use."—*U. S. Disp.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the guarana. Deposit the guarana in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the guarana. Deposit the guarana in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the guarana, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

GUAREA TRICHILOIDES. (*gwa're-a tri-ke-lio-i'dees.*)

NAT. ORDER, Meliaceæ.

NULG., Ball wood, Red wood.

This, a medium sized tree, is an habitat of Brazil.

The Preparations of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark. Run bark through drug mill reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

GYMNOCLADUS CANADENSIS. (*jim-noc'la-dus can-a-den'sis.*)

NAT. ORDER, Leguminosæ.

SYN., Guilandina dioica.

VULG., American coffee tree, Chicot, Kentucky coffee tree, Mahogany, Nicker tree.

This large tree is indigenous to North America. It grows luxuriantly along the river bottoms throughout the middle and the eastern parts of the Southwestern States. The *pulp* (within the fruit pod) surrounding the seed, is the part employed as a therapeutic.

The Preparations of this pulp are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the pulp of the *fresh* fruit. Pass the pulp through the meshes of a coarse seive to separate the seeds, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh pulp.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HÆMATOXYLON. (*hem-a-tox'i-lon.*)

NAT. ORDER, Leguminosæ.

SYN., Hæmatoxylon campechianum Hæmatoxoli lignum, Lignum campechianum, L. campescanum, L. cœruleum.

VULG., Logwood, Peachwood.

This tree is indigenous to tropical America, particularly to Champeachy, from which section it is chiefly exported. Its therapeutic value is wholly dependent upon an active principle termed *hematin* or *hematoxylin.*

The Preparations of logwood are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of (Champeachy) logwood in chips. Run the chips through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the logwood.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr.'941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HAMAMELIS VIRGINICA. (*ham-a-me'lis vir-gin'i-ca.*)

NAT. ORDER, Hamamelaceæ.

SYN., H. androgyna, H. corylifolia, H. dioica, H. macrophylla, Trilopus dentata, T. nigra, T. rotundifolia, T. virginiana.

VULG., Devining rod, Magician's rod, Pistachio nut, Striped alder, Snapping hazel-nut, Spotted alder, Winter bloom, Witch hazel.

This shrub is indigenous to the United States and Canada.

The Preparations of the bark of the twigs, and the leaves, are the tincture and its decimal and centesimal dilutions. Besides these, there are the following preparations: *Hamamelin*, the active principle (a resinoid), and its decimal and centesimal triturations; an aqueous distilled extract;* and, an *ointment of hamamelis.*

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh bark of the twigs. Bruise the bark thoroughly in an brass mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the hamamelin. Deposit the resinoid in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten

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*POND'S EXTRACT OF WITCH HAZEL.—This preparation introduced by an eastern proprietary firm was submitted by the author, in 1868, to a series of analyses and, although alleged to be purely vegetable, the samples were found to also contain *more* than mere *traces* of *acetate of zinc.*

minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* ot the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the hamamelin. Deposit the resinoid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resinoid, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Aqueous Distilled Extract.—Place within a common pharmaceutical still *ten parts* of potable water and *one part* of the bruised bark of the fresh twigs; to each troy pound (of the mixture) add *one-fourth grain* of the acetate of zinc; make suitable connections with a Liebig condenser, and with the aid of a brisk fire proceed as in ordinary cases of distillation.

Ointment.—To *one hundred parts* of simple ointment add *ten parts* of the bark of the fresh twigs. Bruise the twigs and *moisten* them with alcohol, sp. gr. '941, and let stand for six hours; transfer to a porcelain lined iron capsule, add the ointment and simmer over a brisk fire until the fat ceases to sputter. Strain the ointment off and stir it until cold.

HEDEOMA. (*he-de-o'ma.*)

NAT. ORDER, Labiatæ.

SYN., Cunila pulegioides, Melissa pulegioides, Ziziphora pulegioides.

VULG., American pennyroyal, Pennyroyal, Stinking balm, Squaw mint, Tick-weed.

This plant, an annual, is indigenous to all parts of the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HEDYSARUM ILDEFONSANUM. (*he-dy-sa'rum il-de-fon'sa-num.*)

NAT. ORDER, Legumniosæ.
SYN., Carapicho.
VULG., Brazilian burdock.

This plant is indigenous to Brazil.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HELIANTHUS. (*hel-e-an'thus.*)

NAT. ORDER, Compositæ.
SYN., Helianthus annus.
VULG., Sunflower, Sun rose.

This plant, although a native of tropical America, is now cultivated in most parts of the civilized world.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HELIOTROPEUM PERUVIANUM. (*he-lio-tro'pi-um pe-ru-vi-a'num.*)

NAT. ORDER, Borraginaceæ.

VULG., Garden heliotrope, Heliotrope, Sweet heliotrope.

This plant is an habitat of North America. It is also cultivated in the gardens throughout Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* plant in flower. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HELLEBORUS. (*hel-leb'o-rus.*)

NAT. ORDER, Ranunculaceæ.

SYN., Helleborus niger, Melampodium, Veratrum nigrum.

VULG., Black hellebore, Christmas rose.

This perennial plant, growing in mountainous regions, is indigenous to Southern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water, and firmly pack in a conical percolator, and add the alcohol from time to time until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HELONIAS DIOICA. (*he-lo'ni-as di-o'i-ca.*)

NAT. ORDER, Liliaceæ.

SYN., Chamælirium carolinianum, C. luteum, Heloinas luteum, Melanthium dioicum, Ophiostachys virginica, Veratrum luteum.

VULG., Blazing star, Devilsbit, False unicorn, Starwort, Unicorn plant.

This perennial plant is indigenous to the United States and Canada.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

HEPAR SULPHUR. (*he'par sul'fur.*)

SYN., Calcarea sulphurata, Calcic sulphide, Calcium sulphuratum, Calcium sulphide.

VULG., Liver of sulphur, Sulphuret of lime.

Formula.—Ca S.

This substance is prepared by mixing together equal parts of carbonate of lime* and well-washed flowers of sulphur in a Hessian crucible, covering the same with a layer of powdered chalk, made moist with water, and submitting the vessel and its contents for ten or more minutes to the action of fire at the temperature of white heat. The sulphuret thus prepared is to be carefully removed when cold and kept in a well-closed bottle protected from the light.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the ***first decimal*** trituration it requires to ***nine parts*** of milk sugar ***one part*** of the hepar sulphur. Deposit the sulphuret in a porcelain mortar, and add ***three parts*** of milk sugar and steadily triturate for ten minutes; add ***three parts*** more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The ***second decimal*** trituration requires to ***nine parts*** of milk sugar ***one part*** of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add ***three parts*** of milk sugar and steadily triturate for fifteen minutes; add ***three parts*** more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to ***nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***second decimal*** trituration.

The ***first centesimal*** trituration requires ***ninety-nine parts*** of milk sugar to ***one part*** of the hepar sulphur. Deposit the sulphuret in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphuret, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

HEPAR SULPHURIS KALINUM. (*he'par sul'phur-is ka-li'num.*)

Kalium sulphuratum, Potassa sulphurata, Potassa sulphuretum.
VULG., Sulphuret of potassium.

Formula.—$2\,K^2\,S^3$.

The sulphuret of potassium is prepared by gradually heating in a covered Hessian crucible until fused, *two parts* of dried carbonate of potassium and *one part* of sublimed sulphur. This substance should be kept in a well-stoppered bottle protected from the light.

The Preparations of this sulphuret are the decimal and centesimal triturations. Besides these, there is a *lotion of hepar sulphuris kalinum.*

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* See Calcarea carbonica, p. 270.

HYDRANGEA ARBORESCENS. (*hi-dran'je-a ar-bor'es-cens.*)

NAT. ORDER, Saxifragaceæ.
SYN., Hydrangea vulgaris.
VULG., Seven barks, Wild hydrangea.

This shrub is indigenous to the Southern, Middle and Western United States.

The Preparations of the bark of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried bark of the root.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYDRASTIS CANADENSIS. (*hy-dras'tis can-a-den'sis.*)

NAT. ORDER, Ranunculaceæ.
SYN., Warneria canadensis.
VULG., Eye-balm, Golden seal, Ground raspberry, Indian dye, Indian paint, Indian turmeric, Ohio curcuma, Orange root, Tumeric root, Yellow-dye root, Yellow paint, Yellow puccoon, Yellow root, Yellow seal.

This perennial plant is indigenous to the United States and Canada.

The Preparations of the root of this plant are the tincture[*]

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[*] Fluid Extract of Hydrastis.—This form of preparation being a popular one with gynecologists, the following formula is here added:

Take *twenty-two parts* of alcohol, sp. gr. '941, *two parts* of glycerin and *sixteen parts* of hydrastis canadensis (root). Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water, firmly pack in a conical percolator and add a sufficiency of the menstruum to thoroughly saturate the drug; or, until the percolate *begins*

HERACLEUM SPONDYLIUM. (*he-ra-keel'um spon-dil'i-um.*)

NAT. ORDER, Umbelliferæ.

SYN., Acanthus vulgaris, Branca ursina, Heracleum auritum, H. dulce, H. lanatum, H. panaces, Pastinaceæ vulgaris, Pseudo-acanthus.

VULG., All-heal, Bear's breech, Common cow parsnip, Cow parsley, Hogweed, Masterwort.

This perennial plant is indigenous to Northern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HIERACIUM PILOSELLA. (*hi-er-a'se-um pil-o-sel'la.*)

NAT. ORDER, Compositæ.

SYN., Auricula muris, Pilosella alpina.

VULG., Hawkweed, Mouse ear.

This perennial plant is indigenous to Europe.

The Preparations of the root and leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alco-

hol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HUMULUS. (*hu'mu-lus.*)

NAT. ORDER, Urticaceæ.
SYN., Humulus americana, Humulus lupulus.
VULG., Hops.

This perennial climbing plant is indigenous to both Europe and North America. The active principle *lupulin,** which constitutes by weight one-sixth part of the strobiles, is formed on the *surface* of the scales. This substance, examined by the microscope, shows a granular formation which is composed of minute globules, each globule being filled with resinous yellow matter.

The Preparations of the strobiles (fruit) of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of *lupulin.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '941, and *four parts* of the recently dried hops. *Run the hops through drug mill,* reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* the powder with alcohol, (sp. gr. '941), and firmly pack in a conical percolator; add the alcohol, from time to time, until the percolate measures *twelve parts;* then add sufficient water to force the remaining menstruum downwards that the tincture shall equal *sixteen parts.*

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*TINCTURE OF LUPULIN.—On account of hops containing a variable quantity of the active principle *lupulin,* it is suggested that a more reliable tincture may be prepared as follows:

Take a *sufficient quantity* of alcohol, sp. gr. '835, and *two parts* of lupulin. Moisten the lupulin with alcohol, firmly pack in a narrow glass percolator, and gradually add the alcohol until the tincture equals *sixteen parts*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of lupulin.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of aclohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried hops.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of lupulin. Deposit the lupulin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of lupulin. Deposit the lupulin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the lupulin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

HURA BRASILIENSIS. (*hu'ra bra-sil-i-en'sis.*

NAT. ORDER, Euphorbiaceæ.
SYN., Assacon, Assacu, Ussacu.
VULG., Sand boxtree.

This tree is a native of South America.

The Preparations of the milky juice, obtained from the twigs of this tree, are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* alcohol, sp. gr. '941, *one part* of the sap; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the sap; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYDRANGEA ARBORESCENS. (*hi-dran'je-a ar-bor'es-cens.*)

NAT. ORDER, Saxifragaceæ.
SYN., Hydrangea vulgaris.
VULG., Seven barks, Wild hydrangea.

This shrub is indigenous to the Southern, Middle and Western United States.

The Preparations of the bark of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* ot the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYDRASTIS CANADENSIS. (*hy-dras'tis can-a-den'sis.*)

NAT. ORDER, Ranunculaceæ.
SYN., Warneria canadensis.
VULG., Eye-balm, Golden seal, Ground raspberry, Indian dye, Indian paint, Indian turmeric, Ohio curcuma, Orange root, Tumeric root, Yellow-dye root, Yellow paint, Yellow puccoon, Yellow root, Yellow seal.

This perennial plant is indigenous to the United States and Canada.

The Preparations of the root of this plant are the tincture*

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* FLUID EXTRACT OF HYDRASTIS.—This form of preparation being a popular one with gynecologists, the following formula is here added:

Take *twenty-two parts* of alcohol, sp. gr. '941, *two parts* of glycerin and *sixteen parts* of hydrastis canadensis (root). Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water, firmly pack in a conical percolator and add a sufficiency of the menstruum to thoroughly saturate the drug; or, until the percolate *begins*

and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of the alkaloidal salt, *hydrastia*,* the decimal and centesimal triturations of the alkaloidal salt *hydrastin*, and an *ointment of hydrastis canadensis*.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of hydrastis canadensis (root). Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of hydrastis canadensis.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alkaloid. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

to flow; then close the lower orifice of the percolator, cover the top of the vessel closely and permit the contents to macerate for thirty-six consecutive hours. Then proceed with the process of percolation. Add the menstruum from time to time, or until the percolate measures twenty parts; then gradually add sufficient water to force the remaining menstruum downward that the percolate shall equal twenty-four parts. *Having reserved the first fourteen parts* of the percolate, by the means of a water bath distil off the alcohol from the *remainder* and evaporate the residue until its weight equals *two parts;* then mix with the reserved portion (the first fourteen parts) that the extract shall equal *sixteen parts.*

* HYDRASTIA.—This alkaloid is obtained by exhausting the root with water through a process of displacement. The percolate is first treated with muriatic (hydrochloric) acid, thus precipitating the *hydrastin* (berberina), and, subsequently, after decanting off the liquid it is again treated with a solution of ammonia which precipitates the hydrastia in an *impure* state. The impure hydrastia is purified by repeated solution in boiling alcohol.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alkaloid. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *one hundred parts* of simple ointment add *ten parts* of hydrastis canadensis (root). Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten thoroughly with alcohol, sp. gr. '941, cover the vessel closely and macerate for twenty-four hours. Melt the ointment, stir in the hydrastis and simmer over a brisk fire until the fat ceases to sputter. Strain off the ointment and stir until cold.

HYDROCOTYLE ASIATICA. (*hi-dro-cot'ile aza-at'i-ca.*)

NAT. ORDER, Umbelliferæ.

SYN., Hydrocotyle nummularioides, H. pallida.

VULG., Indian pennywort, Thick-leaved pennywort, Water pennywort.

This small perennial plant is a native of India, and is found as an habitat of Asia and Southern Africa.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol. sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYDROPHYLLUM VIRGINICUM. (*hi-dro-phil' lum vir-gin' i-cum.*)

NAT. ORDER, Hydrophillaceæ.

VULG., Burr flower, Water leaf.

This plant, is indigenous to the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution,

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYOSCYAMUS. (*hi-os-si' a-mus.*)

NAT. ORDER, Solanaceæ.

SYN., Hyoscyamus agrestis, H. flavus, H. lethalis, H. nigra, H. pallidus, H. vulgaris, Jusquiami.

VULG., Black henbane, Henbane, Hog bean, Fœtid nightshade, Poison tobacco.

This biennial plant is indigenous to Europe, and is also an habitat of the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

with hot (112° F.) water, and firmly pack in a conical percolator, and add the alcohol from time to time until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HELONIAS DIOICA. (*he-lo'ni-as di-o'i-ca.*)

NAT. ORDER, Liliaceæ.

SYN., Chamælirium carolinianum, C. luteum, Heloinas luteum, Melanthium dioicum, Ophiostachys virginica, Veratrum luteum.

VULG., Blazing star, Devilsbit, False unicorn, Starwort, Unicorn plant.

This perennial plant is indigenous to the United States and Canada.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

HEPAR SULPHUR. (*he'par sul'fur.*)

SYN., Calcarea sulphurata, Calcic sulphide, Calcium sulphuratum, Calcium sulphide.

VULG., Liver of sulphur, Sulphuret of lime.

Formula.—CaS.

This substance is prepared by mixing together equal parts of carbonate of lime[*] and well-washed flowers of sulphur in a Hessian crucible, covering the same with a layer of powdered chalk, made moist with water, and submitting the vessel and its contents for ten or more minutes to the action of fire at the temperature of white heat. The sulphuret thus prepared is to be carefully removed when cold and kept in a well-closed bottle protected from the light.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the hepar sulphur. Deposit the sulphuret in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the hepar sulphur. Deposit the sulphuret in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphuret, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

HEPAR SULPHURIS KALINUM. (*he'par sul'phur-is ka-li'num.*)

Kalium sulphuratum, Potassa sulphurata, Potassa sulphuretum.

VULG., Sulphuret of potassium.

Formula.—$2 K^2 S^3$.

The sulphuret of potassium is prepared by gradually heating in a covered Hessian crucible until fused, *two parts* of dried carbonate of potassium and *one part* of sublimed sulphur. This substance should be kept in a well-stoppered bottle protected from the light.

The Preparations of this sulphuret are the decimal and centesimal triturations. Besides these, there is a *lotion of hepar sulphuris kalinum.*

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[*] See Calcarea carbonica, p. 270.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphuret. Deposit the potassium in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphuret. Deposit the potassium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Lotion.—In *seven parts* of water and *two parts* of glycerin dissolve *one part* of the sulphuret of potassium.

HEPATICA. (*he-pat'i-ca.*)

NAT. ORDER, Ranunculaceæ.

SYN., Anemone hepatica, Hepatica americana, H. nobilis.

VULG., Early anemone, Liverleaf, Liverwort, Noble liverwort, Round lobed hepatica, Trefoil.

This perennial plant is indigenous to the United States.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. ·941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ·941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. ·941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ·941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

HERACLEUM SPONDYLIUM. (*he-ra-keel'um spon-dil'i-um.*)

NAT. ORDER, Umbelliferæ.

SYN., Acanthus vulgaris, Branca ursina, Heracleum auritum, H. dulce, H. lanatum, H. panaces, Pastinaceæ vulgaris, Pseudo-acanthus.

VULG., All-heal, Bear's breech, Common cow parsnip, Cow parsley, Hogweed, Masterwort.

This perennial plant is indigenous to Northern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent: or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HIERACIUM PILOSELLA. (*hi-er-a'se-um pil-o-sel'la.*)

NAT. ORDER, Compositæ.

SYN., Auricula muris, Pilosella alpina.

VULG., Hawkweed, Mouse ear.

This perennial plant is indigenous to Europe.

The Preparations of the root and leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alco-

hol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HUMULUS. (*hu'mu-lus.*)

NAT. ORDER, Urticaceæ.
SYN., Humulus americana, Humulus lupulus.
VULG., Hops.

This perennial climbing plant is indigenous to both Europe and North America. The active principle *lupulin*,* which constitutes by weight one-sixth part of the strobiles, is formed on the *surface* of the scales. This substance, examined by the microscope, shows a granular formation which is composed of minute globules, each globule being filled with resinous yellow matter.

The Preparations of the strobiles (fruit) of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of *lupulin*.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '941, and *four parts* of the recently dried hops. *Run the hops through drug mill*, reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* the powder with alcohol, (sp. gr. '941), and firmly pack in a conical percolator; add the alcohol, from time to time, until the percolate measures *twelve parts;* then add sufficient water to force the remaining menstruum downwards that the tincture shall equal *sixteen parts*.

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*TINCTURE OF LUPULIN.—On account of hops containing a variable quantity of the active principle *lupulin*, it is suggested that a more reliable tincture may be prepared as follows:

Take a *sufficient quantity* of alcohol, sp. gr. '835, and *two parts* of lupulin. Moisten the lupulin with alcohol, firmly pack in a narrow glass percolator, and gradually add the alcohol until the tincture equals *sixteen parts*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of lupulin.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of aclohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried hops.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of lupulin. Deposit the lupulin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of lupulin. Deposit the lupulin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the lupulin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

HURA BRASILIENSIS. (*hu'ra bra-sil-i-en'sis.*

NAT. ORDER, Euphorbiaceæ.
SYN., Assacon, Assacu, Ussacu.
VULG., Sand boxtree.

This tree is a native of South America.

The Preparations of the milky juice, obtained from the twigs of this tree, are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* alcohol, sp. gr. '941, *one part* of the sap; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the sap; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYDRANGEA ARBORESCENS. (*hi-dran'je-a ar-bor'es-cens.*)

NAT. ORDER, Saxifragaceæ.
SYN., Hydrangea vulgaris.
VULG., Seven barks, Wild hydrangea.

This shrub is indigenous to the Southern, Middle and Western United States.

The Preparations of the bark of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYDRASTIS CANADENSIS. (*hy-dras'tis can-a-den'sis.*)

NAT. ORDER, Ranunculaceæ.
SYN., Warneria canadensis.
VULG., Eye-balm, Golden seal, Ground raspberry, Indian dye, Indian paint, Indian turmeric, Ohio curcuma, Orange root, Tumeric root, Yellow-dye root, Yellow paint, Yellow puccoon, Yellow root, Yellow seal.

This perennial plant is indigenous to the United States and Canada.

The Preparations of the root of this plant are the tincture*

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* FLUID EXTRACT OF HYDRASTIS.—This form of preparation being a popular one with gynecologists, the following formula is here added:

Take *twenty-two parts* of alcohol, sp. gr. '941, *two parts* of glycerin and *sixteen parts* of hydrastis canadensis (root). Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water, firmly pack in a conical percolator and add a sufficiency of the menstruum to thoroughly saturate the drug; or, until the percolate *begins*

and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of the alkaloidal salt, *hydrastia,** the decimal and centesimal triturations of the alkaloidal salt *hydrastin,* and an *ointment of hydrastis canadensis.*

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of hydrastis canadensis (root). Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of hydrastis canadensis.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the alkaloid. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

to flow; then close the lower orifice of the percolator, cover the top of the vessel closely and permit the contents to macerate for thirty-six consecutive hours. Then proceed with the process of percolation. Add the menstruum from time to time, or until the percolate measures twenty parts; then gradually add sufficient water to force the remaining menstruum downward that the percolate shall equal twenty-four parts. *Having reserved the first fourteen parts* of the percolate, by the means of a water bath distil off the alcohol from the *remainder* and evaporate the residue until its weight equals *two parts;* then mix with the reserved portion (the first fourteen parts) that the extract shall equal *sixteen parts.*

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* HYDRASTIA.—This alkaloid is obtained by exhausting the root with water through a process of displacement. The percolate is first treated with muriatic (hydrochloric) acid, thus precipitating the *hydrastin* (berberina), and, subsequently, after decanting off the liquid it is again treated with a solution of ammonia which precipitates the hydrastia in an *impure* state. The impure hydrastia is purified by repeated solution in boiling alcohol.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the alkaloid. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *one hundred parts* of simple ointment add *ten parts* of hydrastis canadensis (root). Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten thoroughly with alcohol, sp. gr. ·941, cover the vessel closely and macerate for twenty-four hours. Melt the ointment, stir in the hydrastis and simmer over a brisk fire until the fat ceases to sputter. Strain off the ointment and stir until cold.

HYDROCOTYLE ASIATICA. (*hi-dro-cot'ile aza-at'i-ca.*)

NAT. ORDER, Umbelliferæ.

SYN., Hydrocotyle nummularioides, H. pallida.

VULG., Indian pennywort, Thick-leaved pennywort, Water pennywort.

This small perennial plant is a native of India, and is found as an habitat of Asia and Southern Africa.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ·941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. ·941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ·941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. ·941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ·941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

HYDROPHYLLUM VIRGINICUM. (*hi-dro-phil' lum vir-gin' i-cum.*)

NAT. ORDER, Hydrophillaceæ.

VULG., Burr flower, Water leaf.

This plant, is indigenous to the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution,

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYOSCYAMUS. (*hi-os-si' a-mus.*)

NAT. ORDER, Solanaceæ.

SYN., Hyoscyamus agrestis, H. flavus, H. lethalis, H. nigra, H. pallidus, H. vulgaris, Jusquiami.

VULG., Black henbane, Henbane, Hog bean, Fœtid nightshade, Poison tobacco.

This biennial plant is indigenous to Europe, and is also an habitat of the United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

HYPERICUM. (*hi-per'i-cum.*)

NAT. ORDER, Hypericaceæ.

SYN., Fuga dæmeonum, Herba solis, H. umbelicalis, Hypericum perforatum.

VULG., Johnswort, St. Johnswort.

This perennial plant is an habitat of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (whole) plant (in flower). Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol, macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried (whole) plant (in flower).

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

IBERIS AMARA. (*i-be'ris a-ma'ra.*)

NAT. ORDER, Cruciferæ.

SYN., Lepidium iberis.

VULG., Bitter candytuft.

This plant is indigenous to Europe, and is also a habitat of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently gathered ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

IGNATIA. (*ig-na'sha.*)

NAT. ORDER, Loganiaceæ.

SYN., Faba febrifuga, F. Indica, F. sanctii ignatii, Ignatia amara, Ignatiana philippinica, Strychnos ignatii, S. philippensis.

VULG., St. Ignatius bean.

This medium sized tree, a species of strychnos, is indigenous to the Philippine Islands

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions, and its decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the powdered seeds.* Transfer the powdered seeds to a suitable vessel, *moisten* them with *boiling* (212° F.) water and macerate for two hours; add the alcohol and macerate for twenty-one days; express the tincture and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the powdered seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered ignatia. Deposit the ignatia in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

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* The seeds of the *strychnos ignatia* being exceedingly hard and horny, it becomes necessary to either rasp them or to first steam and afterward slice them; subsequent to which process, in order to powder them, the clippings are dried and then repeatedly run through a coffee mill.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered ignatia. Deposit the ignatia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the ignatia, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ILEX OPACA. (*i'lex o-pa'ca.*)

NAT. ORDER, Aquifoliaceæ.

SYN., Ageria opaca, Ilex aquifolium (?), I. canadensis, I laxiflora, I. quercifolia.

VULG., American holly.

This evergreen shrub or small tree, is an indigenous one. It is found growing along the Atlantic coast from Maine, southward.

The Preparations of the leaves and berries of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves and berries. Bruise the leaves and berries thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves and berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

INDIGO. (*in'di-go.*)

NAT. ORDER, Leguminoseæ.

SYN., Color indicus, Indicum, Pigmentum indicum.

VULG., Indigo, Indigo blue.

This substance is the oxidized chromogen (indican) of the *indigofera tinctoria.*

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the indigo. Deposit the indigo in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the indigo. Deposit the indigo in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the indigo, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

INDIUM METALLICUM. (*in'di-um me-tal'li-cum.*)

SYN., Indium, Metallic Indium.

VULG., Indium.

Formula.—In; 75.6.

The Preparations of this metal* are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the finely divided metal. Deposit the metal in a porcelain mortar, and add *three parts* of coarse milk sugar, and steadily triturate for twenty minutes; add *three parts* more of fine milk sugar and again triturate for twenty minutes; then add balance of (fine) milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal trituration in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

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* Indium being soluble in hydrochloric acid, from which solution it is readily precipitated by either ammonia or potash, as a hydrate, it is here suggested that the finely divided metal for triturations be thus secured from a solution of the *chloride.*

All subsequent triturations are made by adding to *ninety nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

INULA. (*in'u-la.*)

NAT. ORDER, Compositæ.

SYN., Corvisartia helenium, Inula helenium, Enula campana.

VULG., Elecampane, Scabwort.

This plant is an indigene of Europe and is a habitat of Central Asia, Northern Siberia and Eastern United States of America.

The Preparations of the root (2d yr. growth) of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water, firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

IODIUM. (*i-o'di-um.*)

SYN., Iodinum, Iodum.

VULG., Iodine.

Formula.—I; 126.6.

This non-metallic substance is obtained from *kelp;* from the ashes of deep water sea-weeds. Iodine has the sp. gr. 4.9, and is slowly volatile* at an ordinary temperature. Iodine is soluble in about 11 parts of alcohol (sp. gr. '835), in about 60 parts of glycerin and is freely soluble in carbon bisulphide, chloroform and ether, at a temperature of (15° C.) 59° F. It is but sparingly soluble in water; the estimated quantity being but 1 part in 7,000.

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* Iodine, and its preparations, should be carefully excluded from the action of both light and air.

The Preparations of *resublimed* iodine are its alcoholic solution, its decimal and centesimal dilutions and its decimal and centesimal triturations. Besides these, there is an *ointment of iodine.*

THE ALCOHOLIC SOLUTION.—To prepare the alcoholic solution, in *fifteen parts* of alcohol, sp. gr. '835, dissolve *one part* of *resublimed* iodine.

The *drug power* of this solution is 6 per cent; or, each minim contains the medicinal properties of *one-sixteenth grain* of resublimed iodine.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *four parts* alcohol, sp. gr. '835, *sixteen parts* of the alcoholic *solution;* the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *eighty-four parts* of alcohol, sp. gr. '835, *sixteen parts* of the alcoholic *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the resublimed iodine. Deposit the iodine in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the resublimed iodine. Deposit the iodine in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the iodine, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.*—To *ninety-three parts* of benzoinated lard add *four parts* of iodine, *two parts* of water, and *one part* of iodide of potassium. Rub the iodine and potassium, first with the water and then with the benzoinated lard, gradually added, until they are thoroughly mixed, avoiding the use of an iron spatula.

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*Formula, U. S. Pharm., 1882.

IODOFORMIUM. (*i-o-do-for'mi-um.*)

SYN., Iodoformum.
VULG., Iodoform.

Formula.—$C\ H\ I^3$; 392.8

This substance, which in constitution is alleged to be analogous to chloroform (iodine taking the place of chlorine), is prepared by heating in a glass retort until colorless the following mixture: *Two parts* of iodine, *two parts* of carbonate of potassium, *one part* of alcohol and *five parts* of water. After heating the mixture, as directed, the iodoform is precipitated in the form of lemon-yellow colored scales. The scales are collected on a filter, and being thoroughly washed with water are subsequently dried between folds of filtering paper. Iodoform is readily soluble in alcohol, carbon bisulphide, chloroform, ether and the fixed and volatile oils.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodoform. Deposit the iodoform in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes, then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodoform. Deposit the iodoform in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the iodoform, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

IPECACUANHA. (*ip-e-cac-u-an'ha.*)

NAT. ORDER, Rubiaceæ.
SYN., Callicocca ipecacuanha, Cephaelis emetica, C. ipecacuanha, Hipecacuanha, H. brasilienses, H. dysenterica, Ipecacuanha fusca, I. officinalis, Psychotria ipecacuanha.
VULG., Ipecac.

This plant is a native of Brazil.

The Preparations of the root of this plant are the tincture, its decimal and centesimal dilutions and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol; sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of powdered ipecac root. Deposit the ipecac in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered ipecac root. Deposit the ipecac in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the ipecac, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

IRIDIUM. (*i-rid'i-um.*)

Formula.—Ir; 198.

This metallic substance results from treating platinum with nitro-muriatic acid, and subsequently heating it to redness with sodium chloride in the presence of chlorine gas.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the finely divided iridium. Deposit the metal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for thirty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the finely divided iridium. Deposit the metal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

IRIS FLORENTINA. (*i'ris flor-en-ti'na.*)

NAT. ORDER, Iridaceæ.

SYN., Iris germanica.

VULG., Common orris, Florentine orris, Orris root, White flag.

This perennial plant is indigenous to Southern Europe. It is chiefly exported from Italy.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water and digest for an hour, add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

IRIS VERSICOLOR. (*i'ris ver-sic'o-lor.*)

NAT. ORDER, Iridaceæ.

SYN., Iris hexagona.

VULG., Blue flag, Flag lily, Fleur-de-lis, Flower-de-luce, Liver lily.

This perennial plant is a native of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the *recently* dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JABORANDI. (*jab-or-an'di.*)

NAT. ORDER, Rutaceæ.

SYN., Jamborandi, Monniera trifoliata, Ottonia anisum, O. jaborandi, Pilocarpus pinnatifolius, P. pinnatus. P. selloanus, Piper jaborandi, Serronia jaborandi, Yaborandi.

VULG., Jaborandi.

This shrub, known as the pilocarpus jaborandi, is an habitat of Brazil.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with hot (112° F.) water, and firmly pack in a conical percolator, digest for twenty-four hours and add the menstruum, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941. *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JACARANDA CAROBA. (*jac-a-ran'da ca-ro'ba.*)

NAT. ORDER, Bignoniaceæ.

SYN., Bignonia caroba, Jacaranda brasiliensis.

VULG., Caroba.

This medium sized tree is an habitat of Brazil.

The Preparations of the flowers of the caroba are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *fourteen parts* of alcohol, sp. gr. '835, and *eight parts* of the *fresh* flowers. Bruise the flowers thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* of alcohol, sp. gr. '835, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '835, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JALAPA. (*ja-la'pa.*)

NAT. ORDER, Convolvulaceæ.

SYN., Chelapa, Convolvulus Jalapa, C. purga, Exogonium purga, Gialappa, Ipomœa Jalapa, I. purga, I. schiedeana, Mechoacanna nigra.

VULG., Jalap.

This plant is indigenous to Mexico.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '860, and *four parts* of the root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with the alcohol, firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the root.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '860, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '860, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JANIPHA MANIHOT. (*jan'i-fa man'i-hot.*)

NAT. ORDER, Euphorbiaceæ.

SYN., Cassada, Jatropha manihot, Manihot, M. edule, M. utilissima, Manioca mandi.

VULG., Cassava, Mandioc, Madioc, Sweet or bitter cassava, Tapioca plant.

There are two varieties of this shrub, one bitter and the other sweet, both of which are indigenous to South America. The former one is employed as a therapeutic.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the fresh root. Disintegrate the root, bruise it thoroughly in a brass mortar, express and strain off the juice and add sufficient alcohol, (sp. gr. '835), that the mixture shall have the sp. gr. of '941. Transfer the disintegrated root to a suitable vessel and add the expressed juice and sufficient alcohol more (sp. gr. '941), to make *sixteen parts* and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh root.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JATROPHA CURCAS. (*jat'ro-fa cur'cas.*)

NAT. ORDER, Euphorbiaceæ.

SYN., Curcas purgans, Ficus infernalis, Nux cathartica americana, Ricinus majoris.

VULG., Angular leaved physic nut, Barbadoe nut, Physic nut, Purging nut.

This shrub is indigenous to South America. It is also an habitat of the West Indies and Western Africa.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently gathered ripe seeds. Bruise the seeds thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently gathered ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JUGLANS CINEREA. (*jug'lans cin-e'rea.*)

NAT. ORDER, Juglandaceæ.

SYN., Juglans cathartica, J. oblongata.

VULG., Butter nut, Lemon walnut, White walnut (?).

This indigenous forest tree grows throughout the United States.

The Preparations of the inner bark of the root are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of juglans cinerea.*

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried inner bark of the root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the inner bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *one hundred parts* of simple ointment add *ten parts* of the recently dried inner bark of the root of juglans cinerea. Run the bark through drug mill, reduce to a moderately *fine* powder, transfer to a suitable vessel, moisten thoroughly with alcohol, sp. gr. '941, cover the vessel closely and macerate for twenty-four hours. Melt the ointment, stir in the juglans and simmer over a brisk fire until the fat ceases to sputter. Strain off the ointment and stir until cold.

JUGLANS REGIA. (*jug'lans re'ja.*)

NAT. ORDER, Juglandaceæ.
SYN., Nux juglans.
VULG., Common English walnut, European walnut.

This beautiful foliage tree, a native of Asia, is also an habitat of Continental Europe.

The Preparations of the green rind of the unripe fruit and the leaves of this tree, are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* each of the fresh green hulls and of the fresh green leaves. Bruise the hulls and leaves thoroughly in a brass mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh rind of the unripe fruit and of the fresh leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JUNCUS EFFUSUS. (*jun'cus ef-fu'sus.*)

NAT. ORDER, Juncaceæ.
VULG., Bull rush, Common rush, Soft rush.

This perennial plant is an habitat of low, marshy ground throughout Europe, Asia and America.

JUNCUS PILOSUS. (*jun'cus pi-lo'sus.*)

NAT. ORDER, Juncaceæ.
SYN., Luzula pilosa.
VULG., Wood rush.

This perennial plant is an habitat of dry, shady ground throughout Europe, Asia and Africa.

The Preparations of the root of these two plants are the tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JUNIPERUS COMMUNIS. (*ju-nip'e-rus com-mu'nis.*)

NAT. ORDER, Coniferæ.

VULG., Juniper, Juniper berries.

This evergreen shrub* is indigenous to Southern Europe. It has become naturalized in many parts of the United States of America.

The Preparations of the fruit of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried *European* berries. Bruise the berries thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the

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* "The plant described in Bigelow's American Botany, under the title of *J. communis*, and very common in certain parts of New England, deserves, perhaps, to be considered a distinct species. It is a trailing shrub, seldom more than two or three feet high, spreading in all directions, throwing out roots from its branches, and forming beds which are often many rods in circumference. The name of *J. depressa* has been proposed for it.—*U. S. Disp.*

second centesimal dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

JUNIPERUS VIRGINIANA. (*ju-nip'e-rus vir-gin-i-a'na.*)

NAT. ORDER, Coniferæ.

VULG., Red cedar, Savin (?).

This medium sized evergreen tree is an habitat of all sections of the United States.

The Preparations of the leaves and twigs of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* leaves and top twigs. Bruise the leaves and twigs thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the *fresh* leaves and twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

KALI ACETICUM. (*ka'li a-cet'i-cum.*)

SYN., Acetas kalicus, A. potassicus, Kali acetas, Potassæ acetas, Potassii acetas, Potassium acetate, Terra foliata tartari.

VULG., Acetate of potash.

Formula.—$KC^2 H^3 O^2$; 98.

This salt is prepared by gradually adding carbonate of potassium to a solution of acetic acid (sp. gr. 1'048), as long as effervescence is thereby produced; or until its reaction is neutral to test paper. The solution (now one of acetate of potassium), is then filtered, carefully evaporated and constantly stirred with a glass rod until all moisture is driven off.

Tests.—A 2 per cent aqueous solution of acetate of potassium, if prepared with distilled water, should yield no precipitate when treated with a solution of carbonate of sodium, thus showing the absence of *alkaline earths;* it should not be more than faintly turbid on the addition of a solution of nitrate of silver, thus showing the absence of *chlorine*. Acidulated with nitric acid, the solution should not be made only faintly opalescence when treated with a solution of chloride of barium, thus showing the absence of *sulphates;* this acidulated solution should not be effected by the addition of hydrosulphuric acid, thus showing the absence of *metals*. A brownish-colored precipitate being formed on the addition of hydrosulphuric acid, further treat the solution with ferrocyanide of potassium; a *blue* color being thus produced indicates the presence of *iron*, and a *mauve* color the presence of *copper*.

The Preparations of this salt are the alcoholic solution and its decimal and centesimal dilutions.

The Alcoholic Solution.—To prepare the solution, dissolve in *nine parts* of alcohol, sp. gr. '835, *one part* of acetate of potassium.

The *drug power* of this solution is equal to that of the *first decimal dilution*.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the alcoholic *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the alcoholic *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

KALI ARSENICOSUM. (*ka'li ar-sen-i-co'sum.*)

SYN., Kali arseniatum, Potassium arsenite.

VULG., Arsenite of potassa (?). (Arseniated potash.)

An aqueous solution of the so-called arsenite of potassa is prepared by dissolving in a sufficient quantity of water, with the aid of heat, *one part* each of arsenious acid and pure carbonate of potash. The mixture is boiled in a glass or porcelain vessel until the acid is dissolved, when enough *boiling* distilled water is added to make the solution equal *one hundred parts*. The strength of this solution is 2 per cent; or, each minim contains *one-fiftieth grain* of arsenite of potash (?).

The Preparations of this solution* are the decimal and centesimal dilutions.

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*FOWLER'S SOLUTION.—The formula for this preparation, *Liquor Potassæ Arsenitis*, U. S., is the same as the one given above, only that the solution is stronger; it contains four grains of the arsenite to the fluidounce. Besides, a small quantity of comp. spirits of lavender is added to give it taste.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *fifty parts* distilled water *fifty parts* of the aqueous *solution;* the *third decimal* dilution, to *nine parts* of distilled water, *one part* of the second dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *fifty parts* of distilled water, *fifty parts* of the aqueous *solution;* the *second centesimal* dilution to *ninety-nine parts* of distilled water *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

KALI BICHROMICUM. (*ka'la bi-chro'mi-cum.*

SYN., Potassic dichromate, Potassæ bichromas, Potassii bichromas, Potassium bichromate.

VULG., Bichromate of potash.

Formula.—$K^2 Cr^2 O^7$; 295.

This salt is prepared by first mixing together finely powdered chrome iron stone, carbonate of potassium and nitre, and roasting them; as a result, yellow chromate of potassium is obtained. The yellow chromate (in solution) is then acidulated with sulphuric acid, and being set aside for a day or two the *orange-red* crystals of the bichromate of potassium crystalize out. The bichromate of potassium is soluble in about ten parts of water; it is insoluble in alcohol.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the bichromate of potash. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the bichromate of potash. Deposit the potash in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI BROMATUM. (*ka'li bro-ma'tum.*)

SYN., Bromuretum kalicum, B. potassicum, Kali hydro-bromicum, Kalium bromatum, Potassic bromide, Potassii bromidum, Potassium bromide.

VULG., Bromide of potassium, Bromide of potash.

Formula.—$K Br$; 119.

This salt is obtained by decomposing a solution of bromide of iron by adding to it a solution of pure carbonate of potassium. The solution is then evaporated, and the bromide of potash crystallizing out leaves the iron in solution.

Tests.—A crystal of the bromide of potassium should not immediately assume a *yellow* color (thus showing the presence of *bromic acid,*) on being treated with a few drops of diluted sulphuric acid. Gelatinized starch (containing a few drops of chlorine water), being added to a solution of the bromide, should not assume a *blue* color, thus showing the absence of *iodine.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the bromide of potash. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the bromide of potash. Deposit the bromide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI CARBONICUM. (*ka'li car-bon'i-cum.*)

SYN., Carbonas kalicus, C. potassicus, Nitrum fixum, Potassæ. carbonas, Potassic carbonate, Potassii carbonas, Potassium carbonate, Sal tartari.

VULG., Carbonate of potash, Carbonate of potassium, Sal tartar, Salt of tartar.

Formula.—$K^2 CO^3$; 138.

"*Potassii carbonas pura, U. S. P.*, is obtained by heating the bicarbonate to redness; the resulting white anhydrous carbonate is converted into hydrous granular carbonate by solution in water and evaporation until a dry granular salt remains."—*Attfield.*

The Preparations of this salt are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of dry carbonate of potash. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI CAUSTICUM. (*ka'li caus'ti-cum.*)

SYN., K. causticum fusum, K. hydricum fusum, Lapis causticus, Lapis infernalis, Oxydum potassicum, Potassa caustica, Potassa fusa, Potassæ hydras, Potassic hydrate, Potassium hydrate.

VULG., Caustic potash.

"Take of solution of potassa* *eight pints.* Evaporate it rapidly in an iron vessel, over the fire, until ebullition ceases, and the potassa melts. Pour this into suitable moulds, and keep it, when cold, in a well-stopped bottle."—*U. S. Disp.*

The Preparations of caustic potash are the alcoholic solution and its decimal and centesimal dilutions.

The Alcoholic Solution.—In *nine parts* of alcohol, sp. gr. ·941, dissolve *one part* of pure caustic potassa.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. ·835, *one part* of the first decimal *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. ·835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

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* LIQUOR POTASSÆ. *U. S., Solution of Potassa.*—"Take of bicarbonate of potassa *fifteen troy ounces;* lime, *nine troy ounces;* distilled water, a *sufficient quantity.* Dissolve the bicarbonate in four pints of distilled water, and heat the solution until effervescence ceases. Then add distilled water to make up loss by evaporation, and heat the solution to the boiling point. Mix the lime with four pints of distilled water, and, having heated the mixture to the boiling point, add to the alkaline solution, and boil for ten minutes. Then transfer the whole to a muslin strainer, and, when the liquid portion has passed, add sufficient distilled water through the strainer to make the strained liquid measure seven pints. Lastly, keep the liquid in well-stoppered bottles of green glass. Solution of potassa thus prepared has the sp. gr. 1·065, and contains 5.8 per eent of hydrate of potassa."

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the first decimal *solution*; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

KALI CHLORATUM. (*ka'li chlo-ra'tum.*)

SYN., Chloras kalicus, C. potassicus, Kali Chloricum, K. hyper-oxygenatum, K. muriaticum oxygenatum, K. oxy-muriaticum, Potassæ chloras, Potassic chlorate, Potassii chloras, Potassium chlorate.
VULG., Chlorate of potash.

Formula.—$K\,Cl\,O^3$; 122.5.

This salt is made by first saturating certain quantities of chloride of potassium and slaked lime with chlorine gas, and then boiling the product (chlorinated lime) with water to effect double composition. Thus treated, the chlorinated lime breaks up and forms chlorate of calcium and chloride of calcium. The *chlorate of calcium* reacting on the *chloride* of potassium yields chlorate of potassium. Another method of preparation and one still more economical is, by the reaction of chlorine gas on a mixture of *caustic potassa* and slaked lime. Chlorate of potassium is soluble in one hundred parts of water (15 C.) 59° F., to the extent of 6.5 parts.

Tests.—A 2 per cent solution of chlorate of potassium when treated with a solution of nitrate of silver should not yield a precipitate of chloride of silver; thus showing the absence of *chlorine* (chloride of potassium). It should not yield a precipitate when treated with a solution of chloride of barium, thus showing the absence of a *sulphate;* nor, when treated with a solution of oxalate of ammonium, thus showing the absence of *calcium* (lime).

The Preparations of this salt are the decimal* and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered chlorate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for

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*On account of the explosive qualities of chlorate of potassa, particularly when triturated with such oxidizable substances as sulphur, sugar, tannin, etc., it is suggested that the milk sugar used in preparing the *first decimal* trituration be made *moist;* that the triturating be continued, after the addition of the third portion of milk sugar, or, until the preparation is again dry.

ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI CYANATUM. (*ka'li si-an-a'tum.*)

SYN., Cyanuretum kalicum, C. potassicum, Kali cyanidum, K. cyanuretum, K. hydro-cyanicum, Kalium cyanatum, Potassic cyanide, Potassii cyanidum, Potassium cyanide.

VULG., Cyanide of potassium, Fused cyanide of potassium.

Formula.—K Cy; 65.

This salt is formed by fusing together, in a deep iron crucible, ferrocyanide of potassium and carbonate of potassium in proportions of *five parts* of the former to *three parts* of the latter.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the cyanide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the cyanide. Deposit the cyanide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI FERROCYANATUM. (*ka'li fer-ro-si-an-a'tum.*)

SYN., Cyanuretum ferroso-potassicum, Kali ferro-cyanidum, K. erro-cyanuretum, Kalium borussicum, K. ferro-cyanatum, Potassic ferro-cyanide, Potassii ferro-cyanidum, Potassium ferro-cyanide.

VULG., Ferro-cyanide of potassium, Yellow prussiate of potash.

Formula.—$K^4 Fe C^6 N^6, 3 H^2 O$; 422.

This salt is obtained from animal refuse containing large quantities of nitrogen; the scrapings of horns, the hoofs and the waste clippings from hides, with certain proportions of carbonate of potash and iron filings, are heated together in suitable vessels and afterwards boiled in water. The mixture being filtered the filtrate is evaporated and set aside for crystallization. Ferrocyanide of potassium crystallizes in the form of four-sided tabular prisms which are both translucent and soft and of a bright lemon-yellow color. The salt is soluble to the extent of about one part in four of water, at (15° C.) 59° F., but is quite insoluble in alcohol.

Tests.—To determine the presence of ferrocyanogen, add to the suspected liquid (or if a salt make a solution of it), a small quantity of ferric salt; if this radical (ferrocyanogen) be present, a copious precipitate of ferrocyanide of iron (prussian blue) will immediately occur. To another portion, add a solution of copper; if ferrocyanide be present, a *mauve* color precipitate will be seen which is the ferrocyanide of copper. A concentrated aqueous solution of ferrocyanide of potassium when treated with diluted sulphuric acid should give no evidence of an effervescence, thus showing the absence of *carbonates;* acidulated with hydrochloric acid and afterward treated with a solution of chloride of barium there should be no signs of turbidness, thus showing the absence of *sulphates.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the ferrocyanide. Deposit the salt a in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the ferrocyanide. Deposit the ferrocyanide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI HYPOPHOSPHOROSUM. (*ka'li hi-po-fos-four-o'sum.*)

SYN., Hypophosphis kalicus, H. potassicus, Potassii hypophosphis.
VULG., Hypophosphite of potash, hypophosphite of potassium.

Formula.—$K\,PH^2\,O^2$; 104.

This salt is prepared by mixing a solution of carbonate of potassa with a solution of hypophosphite of lime. Double decomposition occurs; hypophosphite of potash being formed is held in solution and the carbonate of lime is precipitated. The solution is then filtered, slowly evaporated and stirred until the process of granulation is completed. Hypophosphite of potash is freely soluble in water, also, to a certain extent, in diluted alcohol; it is only sparingly soluble in absolute alcohol and is quite insoluble in ether.

Tests.—A concentrated aqueous solution of hypophosphite of potash when treated with diluted sulphuric acid should give no evidence of effervescence, thus showing the absence of *carbonates;* acidulated with hydrochloric acid and afterwards treated with a solution of chloride of barium there should be no signs of turbidness, thus showing the absence of *sulphates;* treated with a solution of chloride of ammonium there should be no manifestation of turbidness nor any precipitate, thus showing the absence of *phosphates;* and a solution of oxalate of ammonium should not either produce a precipitate or render the solution turbid, thus showing the absence of *calcium.*

The Preparations of this salt are the decimal* and centesimal triturations.

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*See foot note, page 422.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the hypophosphite. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the hypophosphite. Deposit the hypophosphite in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI IODATUM. (*ka'li i-o-dat'um.*)

SYN., Ioduretum kalicum, I. potassicum, Kali hydroidicum, Kali iodidum, Kalium iodatum, Potassic iodide, Potassii iodidum, Potassium iodide.

VULG., Iodide of potassium.

Formula.—KI; 165.5.

This salt is prepared by heating a mixture of the solution of potash containing a small quantity of iodine until the solution becomes colorless. When colorless the solution is one of *iodate* of potassium and iodide of potassium. The solution is then evaporated to dryness; the resultant salts are now mixed with powdered charcoal and deflagrated in an open crucible, thus de-oxidizing the *iodate* and reducing it to the state of an iodide. The impure iodide is then dissolved in water and filtered, and, the solution is evaporated to a proper density that crystallization may occur. The commercial salt is in the form of colorless cubes; the crystals have an opaque, glistening appearance, are of a neutral reaction, and possess a pungent, saline bitter taste. The salt is freely soluble in water, and is also soluble to the extent of one part in sixteen of alcohol, sp. gr. ·835, at (15° C.) 59° F.

Tests.—A 10 per cent aqueous solution of iodide of potassium, acidulated with tartaric acid and treated with mucilage of starch should not assume a *blue* color (iodide of starch), thus showing the absence of *iodate of potassium.*

The Preparations of this salt are the decimal and centesimal triturations. Besides these, there is an *ointment of iodide of potash.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—"To *eighty-one parts* of benzoinated lard, *one part* of hyposulphite of soda, and *six parts* of boiling water and *twelve parts* of iodide of potassium in fine powder. Dissolve the iodide of potassium and the hyposulphite of sodium in the boiling water, in a warm mortar; then gradually add the benzoinated lard, and mix thoroughly."—*U. S. Pharm.* (1882).

KALI MURIATICUM. (*ka'li mu-ri-at'i-cum.*)

SYN., Kali chloricum, Kali chloridum, Potassium chloridum.
VULG., Chloride of Potassium.
Formula.—K Cl; 74.5.

This salt may be obtained by simply heating chlorate of potash; thereby depriving it of its oxygen. It may also be prepared by treating carbonate of potash with diluted hydrochloric acid.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chloride. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar

one part of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the chloride. Deposit the chloride in a porcelain mortar, and divide the milk sugar into three equal portions, add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI NITRICUM. (*ka'li ni'tri-cum.*)

SYN., Nitras kalicus, N. potassicus, Nitrum, N. depuratum, Potassic nitrate, Potassii nitras, Potassium nitrate, Sal nitre, Sal petra.

VULG., Nitrate of potash, Nitrate of potassium, Nitre, Sal nitre, Saltpetre.

Formula.—$K\ NO^3$; 101.

Nitrate of potash as a natural product is found in several localities in the United States, and also in foreign lands, in the form of a saline earth or as an uncrystallized deposit in lime and sandstone rock. Crude or commercial saltpetre when purified, crystallizes in colorless, transparent, six-sided, rhombic prisms; or the solution, during the process of purification, being constantly stirred, the resulting salt is finally obtained in a granulated state. Nitrate of potash is soluble in about four parts of water (15° C.) 59° F., but is quite insoluble in alcohol, (sp. gr. ·835).

Tests.—An aqueous 10 per cent solution of nitrate of potash if prepared with distilled water, should yield no precipitate when treated with hydrosulphuric acid, or sulphide of ammonium, thus showing the absence of *metals*. A brownish-colored precipitate being thus produced, further treat the solution with ferrocyanide of potassium; a *blue* color indicates the presence of *iron;* a *mauve* color the presence of *copper*. Treated with carbonate of ammonium the solution should remain unaffected, thus showing the absence of *alkaline earths;* acidulated with nitric acid and afterwards treated with chloride of barium the solution should yield no precipitate or show any turbidness, thus indicating the absence of *sulphates*.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of nitrate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of nitrate. Deposit the nitrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI OXALICUM. (*ka'li ox-al'i-cum.*)

SYN., Hydro-potassic oxalate, Kali oxalas, Potassium binoxalate.

VULG., Bioxalate of potash, Binoxalate of potash, Salt of lemons, Salt of sorrel.

Formula.—$K\,H\,C^2\,O^4,\ H^2\,C^2\,O^4,\ 2\,H^2\,O.$

Binoxalate of potash as a natural product exists in the different species of *oxalis* and *rumex*. "It is easily prepared by dividing a hot solution of oxalic acid into two equal portions, neutralizing one with carbonate of potassa and adding the other; the salt crystalizes, on cooling, in colorless, rhombic prisms."—*Fowne.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the binoxalate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the binoxalate. Deposit the binoxalate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI PERMANGANICUM.)*ka'li per-man-ga-ni'cum.*)

SYN., Hyper-manganas kalicus, H. potassicus, Kali hyper-manganicum, K. h. crystallisatum, K. permanganas, Potassæ permanganas, Potassic permanganate, Potassii permanganas.

VULG., Permanganate of Potash, Permanganate of potassium.

Formula.—$K^2 Mn^2 O^8$; 316.

This salt* is prepared by adding black oxide of manganese to a concentrated solution of caustic potash, in a suitable iron vessel heated nearly to redness; the mixture being constantly stirred until dry. The *manganate* of potash thus formed is then powdered, and being repeatedly dissolved in boiling water is as frequently evaporated to dryness. This process being several times repeated, the final solution is decanted, and, after being sufficiently concentrated by further evaporation, is set aside that the permanganate of potassa may crystallize out. The dark purple colored prismatic crystals are soluble in about twenty parts of water (15° C.) 59° F., and are decomposed by alcohol.

KALI PHOSPHORICUM. (*ka'li phos-four'i-cum.*)

SYN., Potassæ phosphas, Potassii phosphas, Potassium phosphate.

VULG., Phosphate of potash.

Formula.—$K^2 HPO^4$; 174.

This metal tribasic phosphate is obtained by treating calcined bone in fine powder with diluted sulphuric acid, digesting the bone in the liquid (with occasional agitation) for a few days, and then further treating the solution with boiling water, filtering and concentrating it, and, then gradually adding a hot solution of carbonate of potassium to render the solution slightly alkaline. On further evaporation the salt is deposited in the form of a white amorphous precipitate. The phosphate of potash may

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*On account of permanganate of potash being readily decomposed when brought into contact with organic matter, it is here suggested that either a *decimal* (10 per cent) or *centesimal* (1 per cent) solution be prepared at such times *only* as when it may be required for immediate use.

be also prepared by saturating diluted phosphoric acid with pure carbonate of potassium.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the phosphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of he first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate. Deposit the phosphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI PICRICUM. (*ka'li pi'cri-cum.*)

SYN., Potassæ carbazotas, P. picras, Potassium picrate, P. picro-nitrate.

VULG., Carbazotate of potash, Picrate of potash.

Formula.—$C^7 H^4 K (NO^2) 30$.

This salt, in form of brilliant yellow needle-like prisms, is obtained by neutralizing trinitro-carbolic, carbazotic or picric acid with carbonate of potassium. The crystals are sparingly soluble in either alcohol or water, and detonate when heated suddenly, or at a high temperature, and are explosive by percussion.

The Preparations of this salt are the decimal* and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the picrate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen

minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes, then add balance of milk sugar and triturate for thirty minutes.

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* See foot note, page 422.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the picrate. Deposit the picrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI SULPHURICUM. (*ka'li sul-phu'ri-cum.*)

SYN., Arcanum duplicatum, Kali sulphas, Potassæ sulphas, Potassic sulphate, Potassii sulphas, Potassium sulphate, Sulfas kalicus, S. potassicus, Tartarus vitriolatus.

VULG., Sulphate of potassium, Sulphate of potash.

Formula.—$K^2 SO^4$; 174.

This salt as a secondary product is obtained by several methods. In the preparation of nitric acid, the residue left in the retort is dissolved in water and the solution is neutralized with carbonate of potassium. Thus prepared, redissolved and recrystallized, the crystals are hard, six-sided, colorless, transparent, rhombic prisms. Sulphate of potash is soluble in 9.5 parts of water (15° C.) 59° F., but are quite insoluble in alcohol.

Tests.—An aqueous 10 per cent solution of sulphate of potash when treated with a solution of carbonate of ammonium should yield no precipitate nor give evidence of any turbidity, thus showing the absence of *alkaline earths*. When treated with diluted sulphuric acid the solution should give no evidence of an effervescence, thus showing the absence of *carbonates;* nor when treated with a solution of nitrate of silver should it yield any precipitate, or become turbid, thus showing the absence of *chlorine*. The solution when treated with hydrosulphuric acid or sulphide of ammonium should *not* yield a brownish-colored precipitate, thus showing the absence of *metals;* a precipitate occurring, add a solution of ferrocyanide of potassium to a fresh portion, and, if the metallic substance be *iron* the resulting precipitate will be of a *blue* color, and if *copper* of a *mauve* color.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALI TARTARICUM. (*ka'li tar-tar'i-cum.*)

SYN., Kali tartras, Potassæ tartras, Potassic tartrate, Potassii tartras, Tartarus solubilis, T. tartarisatus, Tartras kalicus, T. potassicus.

VULG., Soluble tartar, Tartrate of potash, Tartrate of potassium.

Formula.—$(K^2 C^4 H^4 O^6)$. $H^2 O$; 470.

This salt is obtained by saturating a solution of carbonate of potassium with bitartrate of potassium, boiling the solution, filtering it and setting it aside for crystallization. The crystals are of a six-sided dihedral formation; they are soluble in about 0.6 parts of water (15° C.) 59° F., but are quite insoluble in alcohol.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the tartrate. Deposit the salt in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the tartrate. Deposit the tartrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and tritur atefor twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KALMIA LATIFOLIA. (*kal'mia lat-i-fo'lia.*)

NAT. ORDER, Ericaceæ.

SYN., Camædaphne folis tini, Cistus chamærhcdodendros, Ledum floribus bullatis.

VULG., Big leaved ivy, Broad leaved laurel, Calico bush, Ivy, Lambkill, Laurel, Mountain laurel, Sheep poison, Spoon wood.

This evergreen shrub is an habitat of the hill sides and mountainous regions throughout the Middle States, and the northern part of the Southern States of North America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

KAMALA. (*ka-ma'la.*)

NAT. ORDER, Euphorbiaceæ.

SYN., Croton coccineus, C. philippense, C. punctatus, Echinus philippinensis, Kamala, Mallotus philippinensis, Rottlera aurantiaca. R. tinctoria.

VULG., Kamal, Kameela, Kessara, Punnaga.

This substance, a resinous brownish-red powder, is found adhering to the fruit capsules of the plant *Rottlera tinctoria*, an habitat of the East India Islands.

The Preparations of this substance kameela, are the tincture and its decimal and centesimal dilutions, and its decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of kameela. Transfer the powder to a suitable vessel, mixed with an equal quantity of clean sand, moisten with alcohol and firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of kameela.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of kameela. Deposit the drug in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of kameela. Deposit the kameela in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KAOLINUM. (*ka-o-li'num.*)

SYN., Alumina silicata, Kaolin.
VULG., China clay, Porcelain clay.

Natural deposits of this earthy substance, free from iron, are found in the mountainous regions of Saxony.

The Preparations of kaolin are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of kaolin. Deposit the clay in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of kaolin. Deposit the kaolin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the clay, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

KAVA-KAVA. (*ka'va-ka'va.*)

NAT. ORDER, Piperaceæ.
SYN., Piper methysticum.
VULG., Kava-kava.

This shrub is indigenous to many of the Pacific Islands.

The Preparations of the root of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr.'941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

KINO. (*ki'no.*)

NAT. ORDER, Leguminosæ.

SYN., Butea frondosa, Erinaceus, Erythrina monosperma, Eucalyptus kino, E. rostrata, Pterocarpus indicus, P. marsupium, P. santalinus.

VULG., Australian kino, Australian red gum, Bengal kino, Biya, Buja, Dhak tree.

This gum-resinous substance is the inspissated juice of the *Pterocarpus marsupium*, an habitat of Hindostan.

The Preparations of kino are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. '860, and *two parts* of glycerin and *two parts* of powdered gum kino. Transfer the powdered gum to a Wedgewood mortar, add sufficient quantity of the menstruum and thoroughly triturate to form a solution of a semi-fluid consistency; transfer to a suitable vessel and add the remaining menstruum and macerate for five days, occasionally agitating the mixture, then filter.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of gum kino.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* of alcohol, sp. gr. '860, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '860, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '860, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '860, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

KOUSSO. (*koos'so.*)

NAT. ORDER, Rosaceæ.

SYN., Banksia abyssinica, Brayera anthelmintica, Hagenia abyssinia.

VULG., Cabotz, Cosso, Habbe, Hossish, Kosbo, Koso, Kuso, Sika.

The tree *Brayera anthelmintica*, is an habitat of Abyssinia. *Koosso* is the Abyssinian name given to the unripe fruit and flowers.

The Preparations of the flowers of this plant are the decimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered flowers. Deposit the herb in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

KRAMERIA. (*kra-me'ri-a.*)

NAT. ORDER, Polygalaceæ.
SYN., Krameria triandria.
VULG., Mapato, Pumacuchu, Ratanhia, Rhatany.

This creeping shrub is indigenous to Peru.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the quill root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and moisten with alcohol and firmly pack in a conical percolator and digest for three hours; then add the alcohol, from time to time, until the percolate measures fourteen parts, then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the quill root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

KREOSOTUM. (*kre-o-so'tum.*)

SYN., Creasotum.
VULG., Creosote, Kreosote.
Formula.—$C^8\ 4^{10}\ O^2$; 96.

This substance is obtained from crude pyroligneous acid, or wood tar, by distillation. The distillate separating, the heavier oil is saturated with carbonate of potassium. A further separation occurring, the lighter oil is also submitted to a process of distillation, and this distillate, like the first (also separating as the heaviest stratum) is treated with sulphuric acid. Kreosote, when pure, is a colorless liquid, having a specific gravity of 1'046. It is freely soluble in alcohol, carbon bisulphide, ether, in the fixed and volatile oils; it is soluble in water (15° C.) 59° F., to the extent of one part in eighty.

The Preparations of this substance are the alcoholic solution and its decimal and centesimal dilutions.

THE ALCOHOLIC SOLUTION.—To prepare the alcoholic solution, dissolve in *nine parts* of alcohol, sp. gr. '835, *one part* of kreosote.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the alcoholic *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the first decimal *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the second centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LABURNUM. (*la-bur'num.*)

NAT. ORDER, Leguminosæ.
SYN., Cytissus laburnum.
VULG., Bean trefoil, Golden chain, Gold regens.

This small tree is indigenous to the mountain regions of Europe.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '967, and *four parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol (sp. gr. '967), that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '967, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '967, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '967, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '967, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LACHESIS. (*la-kee'sis.*)

CLASS, Reptilia.
ORDER, Ophidia.
FAMILY, Crotalidæ.
SYN., Bothrops surukuku, Crotalus mutus, Scytale ammodytes, Surukuku, Trigonocephalus lachesis, T. rhombeata.
VULG., Lance-headed Brazilian viper.

The Preparations of the recently dried yellowish colored venom of this reptile are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the venom. Deposit the venom in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the venom, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

LACHNANTHES TINCTORIA. (*la-nanth'es tinc-to'ria.*)

NAT. ORDER, Hæmodoraceæ.
SYN., Dilatris tinctoria.
VULG., Red wood, Spirit wood.

This perennial plant is an indigenous one, growing along the Atlantic coast from Rhode Island southward to Florida.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts parts* of the recently dried whole plant. Run plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol, macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LACTUCA SATIVA. (*lac-tu'ca sa-ti'va.*)

NAT. ORDER, Compositæ.
SYN., Lactuca capitata, L. crispa, L. laciniata, L. sylvestris.
VULG., Garden lettuce.

LACTUCA VIROSA. (*lac-tu'ca vi-ro'sa.*)

NAT. ORDER, Compositæ.
SYN., Intybus augustus, Lactuca fœtida.
VULG., Acrid lettuce, Poisonous lettuce, Prickly lettuce, Strong-scented lettuce.

This biennial plant is an indigene of Southern Europe.

The Preparations of the *fresh* stalks of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of the active principle *lactucarium.**

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the fresh stalks. Bruise the stalks thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol (sp. gr. '835), that the mixture shall have the specific gravity of '941; transfer the plant to a suitable vessel and add the expressed juice and alcohol and sufficient more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*, and macerate fourteen days; express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant (stalks).

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol' sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of lactucarium. Deposit the active principle in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of lactucarium. Deposit the lactucarium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the active principle, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

LAMIUM ALBUM. (*la'mi-um al'bum.*)

NAT. ORDER, Labiatæ.

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* Lactucarium is the name given to the milky juice of the *lactuca virosa*, when in a concrete form.

SYN., Galeopsidis maculata, Lamium foliosum, L. lævigatum, L. maculata, L. vulgatum, Urtica mortua.

VULG., Day nettle, Dead nettle, Blind nettle, White archangel.

This plant is indigenous to Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder. transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried whole plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LAPIS ALBUS. (*la'pis al'bus.*)

SYN., Silico-fluoride of calcium.

VULG., Silicated fluoride of lime.

This substance is found in the mineral springs of Gastein, Germany.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the silico-fluoride. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the silico-fluoride. Deposit the silico-fluoride in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

LAPPA MAJOR. (*lap'pa ma'jor.*)

NAT. ORDER, Compositæ.

SYN., Arcticum bardana, A. lappa, Bardana, Lappa minor, L. officinalis, L. tomentosa.

VULG., Burdock, Hare burr.

This biennial, although a native of Europe, is also an habitat of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LARIX AMERICANA. (*la'rix a-mer-i-can'a.*)

NAT. ORDER, Coniferæ.

SYN., Abies americana, Pinus microcarpa, Pinus pendula.

VULG., American larch, Black larch, Hackmetack, Tamarac.

This tree is indigenous to North America.

The Preparations of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

LAUROCERASUS. (*lau'ro-cer'a-sus.*)

NAT. ORDER, Rosaceæ.

SYN., Cerasus folio laurino, C. lauro cerasus, C. trapezuntina, Padus lauro cerasus, Prunus lauro cerasus.

VULG., Cherry bay, Cherry laurel, Laurel.

This evergreen tree is an indigene of Asia Minor.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '960, and *four parts* of the *young* and *fresh* leaves. Chop up the leaves and bruise them thoroughly in a Wedgewood mortar; set aside in a moist, warm atmosphere for six or eight hours (protected from the light); express the juice (limited) and add sufficient water and alcohol that in quantity the menstruum shall equal *sixteen parts*, and have the specific gravity of '960. Transfer the leaves to a suitable vessel, add the menstruum and macerate for fourteen days; express and filter, and keep the tincture in a well-stopped bottle thoroughly protected from the light.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the young fresh leaves.

DILUTIONS.*—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '960, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '960, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '960, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '960, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LAVENDULA VERA. (*la-ven-du'la ve'ra.*)

NAT. ORDER, Labiatæ.

SYN., Lavendula augustafolia, L. officinalis, L. pyrenaica, L. spica, L. vulgaris.

VULG., Garden lavender, Lavender.

This small shrub, indigenous to Southern Europe, is now largely cultivated in the United States.

The Preparations of the flowers of this plant are the tincture and its decimal and centesimal dilutions.

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*The medicinal properties of this plant being extremely volatile, alcoholic dilutions of the tincture are quite unstable.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried (English) flowers. Run the flowers through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried (English) flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LEDUM LATIFOLIUM. (*le'dum lat-i-fo'li-um.*)

NAT. ORDER, Ericaceæ.

VULG., Labrador tea.

This evergreen shrub is indigenous to North America.

LEDUM PALUSTRE. (*le'dum pa-lus'tre.*)

NAT. ORDER, Ericaceæ.

SYN., Anthos sylvestris, Ledum decumbens, L. silesiacum, Rosmarinum sylvestre.

VULG., Marsh cistus, Marsh ledum, Marsh tea, Silesian rosemary, Wild rosemary.

This species of ledum, somewhat smaller than that first mentioned, is an habitat of both continents.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LEPIDIUM BONARIENSE. (*le-pid'i-um bon-a-ren'se.*)

NAT. ORDER, Cruciferæ.

SYN., Lepidium mastruco.

VULG., Buenos Ayres pepperwort, Mastruco.

This herbaceous plant is an habitat of South America. It is found growing in great abundance in the vicinity of Rio Janerio.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol. sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LEPTANDRA. (*lep-tan'dra.*)

NAT. ORDER, Scrophulariaceæ.

SYN., Callistachya virginica, Eustachya alba, E. purpurea, L. purpurea, Pæderota, Veronica incarnata, V. japonica, V. sibirica, V. virginica.

VULG., Black root, Bowman's root, Brinton root, Culver's physic, Culver's root, Tall speedwell, Tall veronica, Veronica, Virginia speedwell.

This herbaceous perennial plant is an habitat of the Eastern United States of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of the active principle *leptandrin.**

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

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*The resinous substance termed *leptandrin*, is composed of gum resin and a crystalline principle precipitated from a concentrated tincture of the root.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of leptandrin. Deposit the active principle in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of leptandrin. Deposit the leptandrin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the active principle, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

LEVISTICUM OFFICINALE. (*le-vis'ti-cum of-fic-i-na'le.*)

NAT. ORDER, Umbelliferæ.
SYN., Ligusticum levisticum.
VULG., Lovage.

This plant is a native of Southern Europe.

The Preparations of the seeds of this plant are the tincture and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten with the alcohol, firmly pack in a conical percolator; add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol. sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* ot the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LIATRIS SPICATA. (*li-a'tris spi-ca'ta.*)

NAT. ORDER, Compositæ.

VULG., Gay feather, Button snakeroot.

This perennial plant is indigenous to the Middle and Southern United States of America.

LIATRIS SQUARROSA. (*li-a'tris squar-ro sa.*)

NAT. ORDER, Compositæ.

VULG., Backache root, Blazing star, Devil's bite, Prairie pines, Rattlesnake's master, Rough root, Sowwort, Throatwort.

This species of the *liatris* is also indigenous to the United States.

The Preparations of the root of these two species are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr' '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LILIUM TIGRINUM. (*lil'i-um ti'gri-num.*)

NAT. ORDER, Liliaceæ.

VULG., Spotted lily, Tiger lily.

This plant is indigenous to China and Japan.

The Preparations of the fresh plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh plant in flower. Chop up the plant and bruise thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LIRIODENDRON. (*ler-e-o-den'dron.*)

NAT. ORDER, Magnoliaceæ.

SYN., L. obtusiloba, L. procerum.

VULG., American poplar, American tulip tree, Common tulip tree, Cyprus tree, Lyre tree of America, Old wife's shirt, Tulip bearing poplar, Tulip tree bark, White wood.

This, an indigenous forest tree, is common everywhere throughout North America.

The Preparations of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the fresh inner bark of the root. Chop and bruise the bark thoroughly in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the inner bark of the fresh root.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LITHIUM BROMICUM. (*lith'i-um bro'mi-cum.*)

SYN., Lithium bromatum, Lithium hydrobromicum, Lithii bromidum.
VULG., Bromide of lithium.

Formula.—Li Br; 87.

This salt is obtained by dissolving carbonate of lithium in hydrobromic acid, and evaporating the solution to dryness.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the bromide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar, and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the bromide. Deposit the bromide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

LITHIUM CARBONICUM. (*lith'i-um car-bon'i-cum.*)

SYN., Carbonas lithicus, Lithic carbonate, Lithii carbonas.
VULG., Carbonate of Lithium.

Formula.—$Li^2 CO^3$; 74.

The mineral substance lithium is found in nature either as a chloride, fluoride or silicate, associated with silicate of aluminium or with silicate of sodium and fluoride of potassium. The salt lithium carbonicum is obtained by treating a concentrated aqueous solution of the chloride of lithium with carbonate of ammonium.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of carbonate of lithium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the carbonate of lithium. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

LOBELIA. (*lo-be' li-a.*)

NAT. ORDER, Lobeliaceæ.

SYN., Lobelia inflata, Rapuntium inflatum.

VULG., Asthma root, Bladder-podded lobelia, Bugle weed, Emetic herb, Emetic weed, Eyebright (?), Fever cure, Indian tobacco, Lobelia, Puke root, Wild tobacco.

LOBELIA CARDINALIS. (*lo-be' li-a car-di-nal' is.*)

NAT. ORDER, Lobeliaceæ.

VULG., Cardinal flower, Red cardinal flower, Red lobelia.

LOBELIA SYPHILITICA. (*lo-be' li-a syph-i-lit' i-ca.*)

NAT. ORDER, Lobeliaceæ.

SYN., Lobelia cerulea, L. Glandulosa.

VULG., Blue cardinal flower, Blue lobelia, Great lobelia.

These several species of lobelia, all biennial plants, are indigenous to the United States of America.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LOLIUM TEMULENTUM. (*lo'li-um tem-u-lent'um.*)

NAT. ORDER, Graminaceæ.

SYN., Lolium arvense, L. robustum.

VULG., Bearded darnel, Cock-grass, Darnel, Lare.

This annual plant is an habitat of both Europe and Western Asia.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten with alcohol and firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LYCIUM BARBARUM. (*ly'ci-um bar'ba-rum.*)

NAT. ORDER, Solanceæ.

SYN., Matrimony vine.

This thorny shrub is indigenous to Southern Europe, and is also an habitat of Asia.

The Preparations of the leaves of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LYCOPERSICUM. (*ly-co-per' si-cum.*)

NAT. ORDER, Solanaceæ.

SYN., Lycopersicum cresiforme, L. esculentum, Mala aurea, M. lycopersica, Poma amoris, Solanum lycopersicum.

VULG., Love apple, Tomato.

This herbaceous plant, now extensively cultivated for its edible fruit, is an indigene of South America.

The Preparations of the leaves and stems of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of lycopersicum.*

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the *fresh* leaves and stems (of the plant when in flower). Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941, then transfer the plant, the expressed juice and alcohol to a suitable vessel and add sufficient alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts.* Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves and stems.

DILUTIONS—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *seventy-five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of sound ripe fruit. Fuse the lard and wax together and constantly stir until cold; scald and peal the fruit, bruise it to a pulp, and remove the seeds by passing it through a moderately fine sieve. Finally add the tomato, in small quantities, to the ointment and thoroughly incorporate them without the aid of heat on a porcelain tile with a spatula.

LYCOPODIUM. (*li-ko-po'de-um.*)

NAT. ORDER, Lycopodiaceæ.

SYN., Lycopodium clavatum, L. inflexum, Muscus clavatus, M. squamosus vulgaris, M. terrestris repens, M. ursinus, Pes leoninus, P. ursinus.

VULG., Club moss, Stag's horn, Witch meal, Wolf's claw, Vegetable sulphur.

This name is given to the sporules or dust from the capsules of the *lycopodium clavatum*, a cryptogamic plant that is indigenous to both Europe and America.

The Preparations[*] of this substance are the tincture its decimal and centesimal dilutions, and its decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of lycopodium and *two parts* of coarse milk sugar. Triturate the lycopodium and milk sugar together in a porcelain mortar thoroughly *with pressure*—using small quantities at a time; repeat the process of trituration, using small quantities as before, but with a *sufficient quantity* of alcohol to form a mixture having the consistency of cream. Triturate the mixture as directed, for three hours; transfer it to a suitable vessel and add the alcohol and macerate for seven days; pour off the alcohol carefully, remove the residue, and firmly pack it in a small cylindrical percolator. Add the alcohol, again from time to time, until the percolate measures fourteen parts, then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture[†] is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the sporules of club moss (*lycopodium*).

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

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[*] Under the microscope the sporules of club moss, in a dry state, have the appearance of being indentated opaque greenish-yellow colored spheres; in a media of alcohol or acetic acid, however, they are seen as partially transparent nodulated hemispherical bodies—resting on a trihedral base, a sort of a balloon shape formation, at the apex of which there is a fragmentary pedicle. Their structure is firmly rigid. Nearly 50 per cent of their weight is due to a colorless, fluid, fixed oil that is soluble in alcohol.

[†] The therapeutic value of the tincture depends entirely upon the process of trituration; on the rupturing of the sporules and thereby liberating their fat.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of lycopodium. Deposit the drug in a porcelain mortar, and add *three parts* of coarse milk sugar (kept moistened with alcohol) and steadily triturate for sixty minutes; add *three parts* more of fine milk sugar and again triturate for sixty minutes; then add balance of milk sugar and triturate for sixty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

LYCOPUS. (*lic'o-pus.*)

NAT. ORDER, Labiatæ.

SYN., L. macrophyllus, L. pumilus, L. uniflorus, L. virginicus.

VULG., American archangel, Bitter bugle, Bugle weed, Gipsey weed, Paul's betony, Red archangel, Sweet bugle, Water bugle, Water hoarhound, Virginia hoarhound.

This perennial plant is indigenous to the United States of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

MAGNESIA CALCINATA. (*mag-ne'zhe-a cal-ci-na'ta.*)

SYN., Magnesia levis, M. usta.

VULG., Calcined magnesia, Light magnesia.

Formula.—MgO; 40.

This earthy substance is obtained by submitting the light carbonate of magnesia to a degree of heat sufficient to expel the carbonic acid and water. The magnesia is introduced into a Hessian crucible, loosely covered and submitted to a red heat until it ceases to effervesce when treated with diluted sulphuric acid.

The Preparations of this earthy substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of calcined magnesia. Deposit the earth in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of calcined magnesia. Deposit the magnesia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the earth, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIA CARBONICA. (*mag-ne'zhe-a car-bon'i-ca.*)

SYN., Carbonas magnesicus, Magnesia aerata, M. alba, M. alba precipitata, Magnesiæ carbonas levis, M. hydrico carbonica, Magnesic carbonate, Magnesium carbonate hydrated, Salis amari.

VULG., Carbonate of magnesia, Carbonate of magnesium, Light carbonate of magnesia.

Formula.—$3\,MgCO^3,\ Mg\,2\,HO,\ 4\,H^2O$; 364.

This salt is obtained by boiling together a solution of sulphate of magnesia (11 per cent) and a solution of carbonate of soda (13 per cent); the precipitate (carbonate of magnesia) is collected on filtering paper, is thoroughly washed, and is finally dried over a water bath. This salt is wholly insoluble in alcohol and is but slightly soluble in water.

Tests.—A 2 per cent aqueous solution of the salt (acidified), should not yield a precipitate when treated with chloride of barium, thus showing the absence of a *sulphate*.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of carbonate of magnesia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of carbonate of magnesia. Deposit the magnesia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIA MURIATICA. (*mag-ne'zhe-a mu-ri-at'i-ca.*)

SYN., Chloras magnesicus, Magnesic chloride, Magnesii chloridum Magnesium chloride.

VULG., Chloride of magnesium, Muriate of magnesia.

Formula.—Mg Cl.

This salt is obtained by dissolving carbonate of magnesia and carbonate of ammonium in hydrochloric acid; neutralizing the acid with the carbonates, mixing the two solutions, evaporating the mixture to dryness and subsequently exposing the salt in a porcelain crucible to red heat. This white crystalline salt is very deliquiscent and should therefore be kept in a well-stopped bottle.

The Preparations of this salt are the solution and its decimal and centesimal dilutions.

THE SOLUTION.—To prepare the solution, dissolve in *nine parts* of alcohol, sp. gr. '835 *one part* of the chloride of magnesia.

This solution in drug strength is equal to the *first decimal dilution.*

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MAGNESIA PHOSPHORICA. (*mag-ne'zhe-a fos-four'i-ca.*)

VULG., Phosphate of magnesia.

Formula.—$2\,Mg\,O.\ PO^5.\ HO\ 14\,H^2\,O.$

This salt is obtained in the form of minute, colorless prisms from the mixed solutions of phosphate of soda and sulphate of magnesia.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of phosphate of magnesia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate of magnesia. Deposit the phosphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIA SULPHURICA. (*mag-ne'zhe-a sul-fu'ri-ca.*)

SYN., Magnesii sulphas, Magnesia vitriolata, Magnesic sulphate, Magnesium sulphate, Sal amarum, S. anglicum, S. epsomense, S. sedlicense, Sulfas magnesicus, Talcum sulphuricum.

VULG., Epsom salts, Sal epsom, Sulphate of magnesia.

Formula.—$Mg\,SO^4.\ 7\,H^2\,O;\ 246.$

This salt is obtained by dissolving in diluted sulphuric acid native carbonate of magnesium (magnesite); the carbonate is added until effervescence ceases, when the solution is boiled to expel the carbonic acid gas and is then filtered and concentrated by evaporation. The rhombic prisims, or needle-like crystals, are both colorless and odorless, of a saline bitter taste and are soluble in their own weight of water at (15° C.) 59°F. The crystals slowly effloresce in a dry atmosphere and are insoluble in alcohol.

Tests.—A 10 per cent aqueous solution of sulphate of magnesia when treated with hydrosulphuric acid or sulphide of ammonium should not yield a precipitate, thus showing an absence of *metals*. A precipitate being thus produced, further treat a portion of the solution with ferrocyanide of potassium; a blue colored precipitate indicates that the metallic substance is *iron*, while a mauve colored precipitate indicates that it is *copper*.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of sulphate of magnesia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of sulphate of magnesia. Deposit the magnesia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIUM METALLICUM. (*mag-ne'zhe-um me-tal'li-cum.*)

VULG., Magnesium metal.

Formula.—Mg; 24.

This metallic substance is obtained from the chloride salt by the action of sodium; by the aid of heat the chlorine unites with the sodium forming chloride of sodium, which is subsequently dissolved out leaving the magnesium behind in the form of a gray-colored precipitate.

The Preparations of this precipitated metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the metal. Deposit the metal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the metal. Deposit the metal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNOLIA. (*mag-no' li-a.*)

NAT. ORDER, Magnoliaceæ.

SYN., Magnolia fragrans, M. glauca, M. longifolia, M. virginiana.

VULG., Beaver tree, Laurel magnolia, Small magnolia, Swamp sassafras, Sweet bay, Sweet magnolia, White bay, White laurel.

This large shrub is indigenous to North America; it grows along the Atlantic coast from Massachusetts, southward to Louisiana.

The Preparations of the fresh flowers of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.*—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the fresh flowers. Bruise the flowers thoroughly in a

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*A tincture of the *fresh* bark of the root may be prepared as follows:—Take *fourteen parts* of alcohol, sp. gr. '941, and *four parts* of the *fresh* bark of the root. Chop the bark up and bruise it thoroughly in an iron mortar, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express the tincture and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MANCINELLA. (*man-ci-nel' la.*)

NAT. ORDER, Euphorbiaceæ.
SYN., Hippomane mancinella.
VULG., Manchineel, Mauchioneal.

This an exceedingly poisonous tree, is indigenous to South America.

The Preparations of both the bark and leaves are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of the recently dried bark of the twigs, and *two parts* of the recently dried leaves. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MANDAGORA. (*man-da-go' ra.*)

NAT. ORDER, Solanaceæ.
SYN., Atropa mandagoro, Mandagora officinarum.
VULG., European mandrake.

This perennial plant is indigenous to Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel. add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part of* the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MANGANUM ACETICUM. (*man'ga-num a-cet'i-cum.*)

SYN., Acetas manganus, Manganesii acetas, Manganium aceticum, Manganous acetate.

VULG., Acetate of manganese.

This salt is obtained by neutralizing a 6 per cent solution of glacial acetic acid with recently precipitated carbonate of manganese. The solution is filtered, evaporated and set aside for crystallization. The crystals are colorless, rhombic prisms.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of acetate of manganese. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of acetate of manganese. Deposit the acetate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MANGANUM CARBONICUM. (*man'ga-num car-bon'i-cum.*)

SYN., Carbonas manganous, Manganesii carbonas, Manganium carbonicum, Manganous carbonate.

VULG., Carbonate of Manganese.

This salt is obtained by adding to a saccharated solution of manganous chloride or sulphate, a solution of carbonate of sodium. The bright, brownish-colored precipitate should be well washed and then rapidly dried at a low temperature.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of carbonate of manganese. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of carbonate of manganese. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MANGANUM HYPEROXYDATUM. (*man'ga-num hy-per-ox-i-dat'um.*)

SYN., Manganesii oxidum nigrum, Manganum oxydatum nativum, Oxydum manganicum.

VULG., Binoxide of manganum, Black oxide of manganese, Dioxide of manganese, Peroxide of manganese, Pyrolusite.

Formula.—Mn O^2; 87.

The black oxide of manganese is frequently met with in the vicinity of Aberdeenshire, England. As a native mineral ore it is a heavy steel-gray, or a grayish-black crystalline powder. It is insoluble, but is decomposed by heat and by hot hydrochloric acid and by sulphuric acid.

The Preparations of the binoxide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of binoxide of manganese. Deposit the binoxide in a porcelain mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of binoxide of manganese. Deposit the binoxide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the binoxide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MANGANUM SULPHURICUM. (*man'ga-num sul-fu'ri-cum.*)

SYN., Mangani sulphas, Manganesii sulphas, Manganous sulphate, Sulphas manganosus.

VULG., Sulphate of manganese.

Formula.—$Mn\,SO^4\,4\,H^2\,O$; 222.

This salt (amorphous with sulphate of magnesia) is obtained by heating together binoxide of manganese and sulphuric acid. The binoxide thus loosing its oxygen, unites with the acid forming the sulphate; water is then added, the solution boiled, filtered, and evaporated and set aside for crystallization. Sulphate of manganese crystallizes in the form of transparent, pale, rose-colored right rhombic prisms which are freely soluble in water but which are wholly insoluble in alcohol.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of sulphate of manganese. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of sulphate of manganese. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MANZANITA. (*man-za-ne'ta.*)

NAT. ORDER, Ericaceæ.
SYN., Arctostaphylos glauca.
VULG., Manzanita.

This shrub is indigenous to North America. It grows abundantly, both on the (Pacific) coast range and to the eastward on the Sierra Nevada mountains.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MARRUBIUM. (*mar-ru'bi-um.*)

NAT. ORDER, Labiatæ.
SYN., Marrubium album, M. vulgare.
VULG., Horehound, White horehound.

This perennial plant, although an habitat of the United States of America, is an indigene of Europe.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MELASTOMA ACKERMANNI. (*me-las'to-ma ac-ker-man'ni.*)

NAT. ORDER, Melastomaceæ
SYN., Melastoma tapixirica.
VULG., Tapixirica.

This shrub is indigenous to tropical America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MELILOTUS. (*mel-i-lo'tus.*)

NAT. ORDER, Leguminosæ.
SYN., Melilotus alba, M. leucantha, M. officinalis (?).
VULG., Sweet clover, White melilot.

MELILOTUS OFFICINALIS. (*mel-i-lo'tus of-fic-i-na'lis.*)

NAT. ORDER, Leguminosæ.

SYN., Melilotus vulgaris, Trifolium officinale.

VULG., King's clover, Sweet clover, Yellow melilot.

These species of melilotus, both annuals, although naturalized and cultivated as garden plants in North America are indigenous to Europe.

The Preparations of the fresh flowers of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the *fresh* flowers. Bruise the flowers thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MELISSA. (*me-lis'sa.*)

NAT. ORDER, Labiatæ.

SYN., Melissa officinalis.

VULG., Balm, Common balm, Lemon balm.

This perennial plant, naturalized and extensively cultivated in the gardens of this country, is an indigene of Southern Europe.

The Preparations of the leaves of this plant are the tincture and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the *fresh* leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this solution is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the *fresh* leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourths parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MENISPERMUM CANADENSE. (*men-i-sper'mum can-a-den'sis.*)

NAT. ORDER, Menispermaceæ.
SYN., Cissampelos smilacina, M. angulatum, M. smilacinum.
VULG., Canada wormwood, Canadian moonseed, Moonseed, Texas sarsaparilla, Vine maple, Yellow parilla.

This plant, a climber, is an habitat of the United States and Canada.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MENTHA AQUATICA. (*men'tha a-quat'i-ca.*)

NAT. ORDER, Labiatæ.
SYN., Menthastrum.
VULG., Water mint.

MENTHA PIPERITA. (*men'tha pip-e-ri'ta.*)

NAT. ORDER, Labiatæ.
SYN., Mentha hircina, M. officinalis, M. viridi aquatica.
VULG., Peppermint.

MENTHA VIRIDES. (*men'tha ver'i-dis.*)

NAT. ORDER, Labiatæ.

SYN., Mentha sativa, M. spicata, M. vulgaris.

VULG., Spearmint.

These several species of mentha are indigenous to Europe; but the two latter ones are largely cultivated in North America.

The Preparations of the leaves of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the leaves of the fresh plant. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MENYANTHES. (*me-ny-an'thes.*)

NAT. ORDER, Gentianaceæ.

SYN., Menyanthes trifoliata, Trifolium amarum, T. aquaticum, T. fibrum.

VULG., Bitter worm, Bog bean, Brook bean, Buck bean, Marsh trefoil, Water shamrock.

This perennial plant is native to both Europe and North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

MAGNESIA CALCINATA. (*mag-ne'zhe-a cal-ci-na'ta.*)

SYN., Magnesia levis, M. usta.
VULG., Calcined magnesia, Light magnesia.
Formula.—Mg O; 40.

This earthy substance is obtained by submitting the light carbonate of magnesia to a degree of heat sufficient to expel the carbonic acid and water. The magnesia is introduced into a Hessian crucible, loosely covered and submitted to a red heat until it ceases to effervesce when treated with diluted sulphuric acid.

The Preparations of this earthy substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of calcined magnesia. Deposit the earth in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of calcined magnesia. Deposit the magnesia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the earth, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIA CARBONICA. (*mag-ne'zhe-a car-bon'i-ca.*)

SYN., Carbonas magnesicus, Magnesia aerata, M. alba, M. alba precipitata, Magnesiæ carbonas levis, M. hydrico carbonica, Magnesic carbonate, Magnesium carbonate hydrated, Salis amari.
VULG., Carbonate of magnesia, Carbonate of magnesium, Light carbonate of magnesia.
Formula.—3 Mg CO^3, Mg 2 HO, 4 H^2 O; 364.

This salt is obtained by boiling together a solution of sulphate of magnesia (11 per cent) and a solution of carbonate of soda (13 per cent); the precipitate (carbonate of magnesia) is collected on filtering paper, is thoroughly washed, and is finally dried over a water bath. This salt is wholly insoluble in alcohol and is but slightly soluble in water.

Tests.—A 2 per cent aqueous solution of the salt (acidified), should not yield a precipitate when treated with chloride of barium, thus showing the absence of a *sulphate.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of carbonate of magnesia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of carbonate of magnesia. Deposit the magnesia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIA MURIATICA. (*mag-ne'zhe-a mu-ri-at'i-ca.*)

SYN., Chloras magnesicus, Magnesic chloride, Magnesii chloridum Magnesium chloride.

VULG., Chloride of magnesium, Muriate of magnesia.

Formula.—Mg Cl.

This salt is obtained by dissolving carbonate of magnesia and carbonate of ammonium in hydrochloric acid; neutralizing the acid with the carbonates, mixing the two solutions, evaporating the mixture to dryness and subsequently exposing the salt in a porcelain crucible to red heat. This white crystalline salt is very deliquiscent and should therefore be kept in a well-stopped bottle.

The Preparations of this salt are the solution and its decimal and centesimal dilutions.

THE SOLUTION.—To prepare the solution, dissolve in *nine parts* of alcohol, sp. gr. '835 *one part* of the chloride of magnesia.

This solution in drug strength is equal to the *first decimal dilution*.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MAGNESIA PHOSPHORICA. (*mag-ne'zhe-a fos-four'i-ca.*)

VULG., Phosphate of magnesia.

Formula.—$2\ Mg\ O.\ \ PO^5.\ \ HO\ 14\ H^2\ O.$

This salt is obtained in the form of minute, colorless prisms from the mixed solutions of phosphate of soda and sulphate of magnesia.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of phosphate of magnesia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate of magnesia. Deposit the phosphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIA SULPHURICA. (*mag-ne'zhe-a sul-fu'ri-ca.*)

SYN., Magnesii sulphas, Magnesia vitriolata, Magnesic sulphate, Magnesium sulphate, Sal amarum, S. anglicum, S. epsomense, S. sedlicense, Sulfas magnesicus, Talcum sulphuricum.

VULG., Epsom salts, Sal epsom, Sulphate of magnesia.

Formula.—$Mg\ SO^4.\ \ 7\ H^2\ O;\ 246.$

This salt is obtained by dissolving in diluted sulphuric acid native carbonate of magnesium (magnesite); the carbonate is added until effervescence ceases, when the solution is boiled to expel the carbonic acid gas and is then filtered and concentrated by evaporation. The rhombic prisims, or needle-like crystals, are both colorless and odorless, of a saline bitter taste and are soluble in their own weight of water at (15° C.) 59°F. The crystals slowly effloresce in a dry atmosphere and are insoluble in alcohol.

Tests.—A 10 per cent aqueous solution of sulphate of magnesia when treated with hydrosulphuric acid or sulphide of ammonium should not yield a precipitate, thus showing an absence of *metals.* A precipitate being thus produced, further treat a portion of the solution with ferrocyanide of potassium; a blue colored precipitate indicates that the metallic substance is *iron,* while a mauve colored precipitate indicates that it is *copper.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of sulphate of magnesia. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of sulphate of magnesia. Deposit the magnesia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MAGNESIUM METALLICUM. (*mag-ne'zhe-um me-tal'li-cum.*)

VULG., Magnesium metal.

Formula.—Mg; 24.

This metallic substance is obtained from the chloride salt by

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LOLIUM TEMULENTUM. (*lo'li-um tem-u-lent'um.*)

NAT. ORDER, Graminaceæ.

SYN., Lolium arvense, L. robustum.

VULG., Bearded darnel, Cock-grass, Darnel, Lare.

This annual plant is an habitat of both Europe and Western Asia.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, moisten with alcohol and firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LYCIUM BARBARUM. (*ly'ci-um bar'ba-rum.*)

NAT. ORDER, Solanceæ.

SYN., Matrimony vine.

This thorny shrub is indigenous to Southern Europe, and is also an habitat of Asia.

The Preparations of the leaves of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

LYCOPERSICUM. (*ly-co-per' si-cum.*)

NAT. ORDER, Solanaceæ.

SYN., Lycopersicum cresiforme, L. esculentum, Mala aurea, M. lycopersica, Poma amoris, Solanum lycopersicum.

VULG., Love apple, Tomato.

This herbaceous plant, now extensively cultivated for its edible fruit, is an indigene of South America.

The Preparations of the leaves and stems of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of lycopersicum.*

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the *fresh* leaves and stems (of the plant when in flower). Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941, then transfer the plant, the expressed juice and alcohol to a suitable vessel and add sufficient alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts.* Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves and stems.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *seventy-five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of sound ripe fruit. Fuse the lard and wax together and constantly

MERCURIUS OXYDATUS FLAVUS. (*mer-cu'ri-us ox i-da'tus fla'vus.*)

SYN., Hydrargyricum oxydatum flavum, Mercuric oxide.
VULG., Yellow oxide of mercury.
Formula.—Hg O; 216.

This salt is obtained by adding a solution of mercuric chloride (corrosive sublimate) or mercuric nitrate* to lime water, or to a solution of potash or soda.

(For Preparations See Mercurius Vivus.)

MERCURIUS PRÆCIPITATUS ALBUS. (*mer-cu're-us pre-cip-i-ta'tus al'bus.*

SYN., Hydrargyri ammonia chloricum, Hydrargyrum amidato bichloratum, H. ammonio muriaticum, H. ammoniatum, H. muriaticum precipitatum, H. precipitatum album, Mercuric ammonic chloride, Mercurii precipitatus albus, Mercurius cosmeticus, Murias oxydi hydrargyri ammoniacalis.
VULG., Ammoniated chloride of mercury, White precipitate.
Formula.—NH^2 Hg Cl; 251.5.

This salt is obtained by adding an aqueous solution of mercuric chloride (corrosive sublimate) to water of ammonia. The precipitate is well washed with water and dried over a water bath.

(For Preparations See Mercurius Vivus.)

MERCURIUS PRÆCIPITATUS RUBER. (*mer-cu're-us pre-cip-i-ta'tus ru'ber.*)

SYN., Hydrargyri nitrico-oxidum, H. oxidum rubrum, Hydrargyrum oxydatum rubrum, Mercurii precipitatus rubrum, Mercuric oxide, Mercurius corrosivus ruber, Mercurous oxide, Oxydum hydrargyricum, Peroxydum hydrargyri.
VULG., Peroxide of mercury, Red oxide of mercury, Red precipitate.
Formula.—Hg O; 216.

This salt is obtained by simply heating mercuric nitrate until red vapors cease to be evolved.

(For Preparations See Mercurius Vivus.)

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* LOTION OF YELLOW MERCURY.—The *Lotio Hydrargyri Flava*, B. P. is prepared by adding *eighteen grains* of mercuric chloride (corrosive sublimate) to *ten ounces* of freshly prepared lime water.

MERCURIUS SOLUBILIS HAHNEMANNI. (*mer-cu're-us sol-u'bil-is Hahn-ne-man'ni.*)

SYN., Hydrargyrum ammonio nitricum, H. oxydulatum nigrum, Mercurius solubilis, Oxydulum hydrargyri salinum.

VULG., Black oxide of mercury.

This salt is obtained by gradually adding concentrated water of ammonia to a saturated solution of mercuric nitrate.

(For Preparations See Mercurius Vivus.)

MERCURIUS SULPHURETUM NIGRUM. (*mer-cu're-us sul-fu-ret'um ni'grum.*)

SYN., Hydrargyrum sulphuretum nigrum, Mercurius proto-sulphide, Mercuric sulphide.

VULG., Æthiops mineralis, Black sulphide of mercury, Black sulphuret of mercury, Æthiop's mineral, Sub-sulphuret of mercury.

This substance is obtained by triturating together mercury (quicksilver) and sulphur, so long as globules of the metallic element are visible.

(For Preparations See Mercurius Vivus.)

MERCURIUS SULPHURETUM RUBER. (*mer-cu're-us sul-fu-ret'um ru'ber.*)

SYN., Cinnabaris, Hydrargyri sulphuretum rubrum, Hydrargyrum sulfuratum rubrum, Mercuric sulphide, Sulfuretum hydrargyri rubrum, S. hydrargyricum.

VULG., Bisulphuret of mercury, Cinnabus, Red sulphide of mercury, Red sulphuret of mercury, Sulphide of mercury, Vermillion.

Formula.—HgS; 232.

This salt is obtained by subliming a mixture of mercury (quicksilver) and sulphur. The sulphur is first melted and then the mercury is gradually added and constantly stirred until the mass becomes puffy; it is then set aside and when cool is finely triturated and afterward submitted to sublimation.

Tests.—Digested in acetic acid and treated with a solution of iodide of potassium no yellow precipitate should occur, thus showing the absence of (red) *lead;* the salt being treated with a hot solution of carbonate of potash and filtered, the filtrate being acidulated with hydrochloric acid should not yield a yellow precipitate, thus showing the presence of either *antimony* or *arsenic;* nor should another portion of the same filtrate when treated with a solution of the acetate of lead yield a yellow precipitate, thus showing the presence of either *chromates* or *iodides*.

(For Preparations See Mercurius Vivus.)

MERCURIUS SULPHURICUS. (*mer-cu're-us sul-fu'ri-cus.*)

SYN., Hydrargyri subsulphas, H. sulphas flava. Hydrargyrum oxydatum sub-sulphuricum, H. sulphuricum flavum, Mercuric sulphate, Mercurius emeticus flavus, Sulphas hydrargyricus flavus.

VULG., Turpeth mineral, Subsulphate of mercury, Yellow sulphate of mercury.

Formula.—$Hg S^4$; 328.

This salt is obtained by digesting mercury (quicksilver) in hot, strong sulphuric acid. The mercury and acid are simply boiled together (one part of mercury to eight of the acid) and the heat is continued until all moisture is evaporated.

(For Preparations See Mercurius Vivus.)

MERCURIUS VIVUS. (*mer-cu're-us vi'vus.*)

SYN., Argentum vivum, Hydrargyrum.

VULG., Mercury, Quicksilver.

Formula.—Hg; 200.

This metal occurring in nature as a sulphide, is separated from the sulphur by roasting.

The Preparations of quicksilver together with its several salts are the decimal and centesimal triturations. Besides these, there are the following *ointments:* Blue ointment (Ung. hydrargyrum), ointment of ammoniated mercury (white precipitate) (Ung. hydrarg. ammonium), ointment of nitrate of mercury (citrine ointment), (Ung. hydrarg. nitricum), ointment of yellow oxide of mercury (Ung. hydrarg. oxidum flavus) and ointment of red oxide of mercury (red precipitate), (Ung. hydrarg. oxidum rubrum).

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of quicksilver. Deposit the metal in a porcelain mortar, and add *three parts* of milk sugar (moistened with water) and steadily triturate for twenty minutes; add *three parts* more of milk sugar (moistened) and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes, or until dry.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration. Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

TRITURATIONS OF THE MERCURIAL SALTS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salt. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salt. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Blue Ointment.—To *forty parts* of benzoinated lard and *ten parts* of suet add *fifty parts* of mercury (quicksilver). Mix the lard and suet together and fuse them over a slow fire. Take *two parts* of the ointment when cold, transfer to a porcelain mortar and add the mercury and triturate until the metallic globules are no longer visible under a magnifying power of ten diameters. *Warm* the balance of the ointment (forty-eight parts) and gradually add to the mercurial base, continuing to triturate the same until the whole is thoroughly incorporated.

Citrine Ointment.—To *seventy-seven and a half parts* of lard and *fifteen parts* of nitric acid (sp. gr. 1'42) add *seven and a half parts* of mercury (quicksilver). Transfer the lard to a porcelain capsule and heat to a temperature of 160° F.; add *five parts* of nitric acid and continue the heat until effervescence ceases. With the aid of heat dissolve the mercury in *ten parts* of nitric acid and add to the ointment, and stir constantly with a hard wooden spatula until cold.

Ointment of Ammoniated Mercury.—To *eight parts* of lard and *fifteen parts* of yellow wax add *ten parts* of finely powdered ammoniated mercury (white precipitate). Transfer the lard and wax to a porcelain lined iron capsule or evaporating dish, and fuse them over a slow fire. Triturate the mercury with a limited quantity of the ointment (when cold) in a porcelain mortar until a smooth unctuous mixture is obtained; then add balance of the ointment and continue to triturate until the whole is thoroughly incorporated.

Ointment of Red Oxide of Mercury.—This ointment is prepared in the same manner as the ammoniated mercury ointment; the only difference being a fact of substitution; the *red oxide* of mercury (red precipitate) in this instance is substituted for the ammoniated mercury.

Ointment of Yellow Oxide of Mercury.—This ointment also is prepared in the same manner as the ammoniated mercury ointment; the *yellow oxide* of mercury being substituted for the ammoniated mercury.

MESEMBRYANTHEMUM. (*me-sem-bre-an' the-mum.*)

NAT. ORDER, Ficoideæ.
SYN., M. crystallinum.
VULG., Diamond fig, European ice plant, Ice plant.

This biennial succulent plant is an habitat of Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the stems and leaves of the fresh plant. Chop up the plant and bruise it thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol (sp. gr. '835) that the mixture shall have the specific gravity of '941, and add enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts.* Transfer the bruised plant to a suitable vessel, add the menstruum and macerate for seven days; express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MEZEREUM. (*mez-e-re' um.*)

NAT. ORDER, Thymelaceæ.
SYN., Chamædaphne, Chamælia germanica, Coccus chamelaeus, C. gnidus, Cocognidus, Daphne gnidum, D. laureola, D. mezereum, Daphnoides, Laureola, Mezereum germanicum, M. officinarum, Thymelæ.
VULG., Mezereon, Spurge olive.

This small shrub *daphne mezereum*, is indigenous to the British Isles. As an ornamental shrub, it is cultivated in both Europe and America.

The Preparations of the bark of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. 941, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture* is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr.'941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

MILLEFOLIUM. (*mil-le-fo' li-um.*)

NAT. ORDER, Compositæ.

SYN., Achillea alba, A. millefolium, A. myriophylli, A. setacea.

VULG., Millfoil, Nose-bleed, Yarrow.

This perennial plant is an habitat of both Europe and America.

The Preparations of the leaves and flowers of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves and flowers. Run the leaves and flowers through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves and flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MIMOSA HUMILIS. (*me-mo' sa hu' mi-lis.*)

NAT. ORDER, Leguminosæ.

VULG., Sensitive plant.

This plant is a native of South America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

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*The active principle of Daphne mezereum is a glucoside termed *Daphnin* ($C^{31} H^{34} O^{19}$).

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp..gr. 835, *one part* of each succeeding dilution.

MITCHELLA REPENS. (*mit-chel'la re'pens.*)

NAT. ORDER, Rubiaceæ.

VULG. Checker berry (?), Deer berry (?), One berry, Partridge berry (?), Squaw vine, Winter clover.

This evergreen plant, a perennial creeper, is indigenous to North America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MOMORDICA BALSAMINA. (*mo-mor'de-ka bal-sa-mi'na.*)

NAT. ORDER, Cucurbitaceæ.

VULG., Balsam apple.

This plant, an annual climber, is indigenous to the East Indies. The plant is also cultivated in the United States of North America.

The Preparations of the ripe fruit of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of momordica.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the ripe fruit. Chop up and bruise the fruit in a Wedgewood mortar, express the juice and add sufficient alcohol (sp. gr. '835), that the mixture shall have the specific gravity of '941, and add enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts.* Transfer the bruised fruit to a suitable vessel and add the menstruum and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the ripe fruit.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *seventy-five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of sound ripe fruit. Fuse the lard and wax together and constantly stir until cold; scald and peel the fruit, bruise it to a pulp, and remove the seeds by passing it through a moderately fine sieve. Finally, gradually add to the ointment and thoroughly mix with the aid of a bone or wooden spatula.

MONARDA. (*mo-nar'da.*)

NAT. ORDER, Labiatæ.
SYN., Monarda punctata.
VULG., Horsemint.

This herbaceous perennial plant is indigenous to the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fifteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MONOTROPA UNIFLORA. (*mon-o-tro'pa u-ni-flo'ra.*)

NAT. ORDER, Galacineæ.

SYN., M. morisoniana.

VULG., Bird's nest, Corpse plant, Fit plant, Fit root, Ice plant (?), Indian pipe, Ova ova, Pine sap, Pipe plant.

This succulent annual plant is an habitat of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MORPHIUM. (*mor'fe-um.*)

SYN., Morphia, Morphium purum, Morphinum.

VULG., Morphine.

Formula.—$C^{17} H^{19} NO^{3}, H^{2} O$; 303.

This alkaloidal crystalline salt of opium is obtained by saturating an infusion of opium first with alcohol and then with water of ammonia. The morphia crystallizes out in short, transparent, colorless prisms. The crystals are slightly soluble in water; are soluble in about 500 parts of boiling water, and in 100 parts of alcohol at (15° C.), 59° F.

The Preparations of pure morphine are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of morphine. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of morphine. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MORPHIUM ACETICUM. (*mor'fe-um a-cet'i-cum.*)

SYN., Acetas morphicus, Morphia acetate, Morphiæ acetas, Morphinum aceticum.

VULG., Acetate of morphine.

Formula.—$C^{17} H^{19} NO^{3}. HC^{2} H^{3} O^{2}. 3 H^{2} O$; 399.

This salt is obtained by dissolving pure morphia in diluted acetic acid. The solution is gradually evaporated over a water-bath, and is constantly stirred with a glass rod until dry.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acetate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acetate. Deposit the acetate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MORPHIUM MURIATICUM. (*mor'fe-um mu-ri-at'i-cum.*)

SYN., Hydrochloras morphicus, Morphia hydrochlorate, Morphia muriatica, Morphiæ hydrochloras, M. murias, Morphinum hydrochloricum.

VULG., Hydrochlorate of morphine, Muriate of morphine.

Formula.—$C^{17}H^{19}NO^{3}$, HCl, $3 H^{2}O$; 375.4.

This salt is obtained by dissolving pure morphia in distilled water slightly acidulated with muriatic acid. The solution is evaporated, and the feathery, silk-like acicular prisms crystallize out. The crystals are soluble in about twenty-five parts of water and in sixty parts of alcohol (15° C.) 59° F.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the muriate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar, and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the muriate. Deposit the muriate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MORPHIUM SULPHURICUM. (*mor'fe-um sul-fu'ri-cum.*)

SYN., Morphia sulphate, Morphiæ sulphas, Morphinum sulphuricum, Sulphas morphicus.

VULG., Sulphate of morphia.

Formula.—$(C^{17}H^{19}NO^{3})^{2}$. $H^{2}SO^{4}$. $5 H^{2}O$; 758.

This salt is obtained by dissolving pure morphia in distilled water slightly acidulated with sulphuric acid. The solution is evaporated, and the feathery, acicular prisms in form of white fasciculi crystallize out. The crystals of pure sulphate of morphia (uncombined with morphium) are soluble in 2.4 parts of water and in 700 parts of alcohol (15° C.) 59° F.

Tests.—Salts of morphia are first made crimson red and then yellow, when treated with strong nitric acid.

The Preparations of this salt are the decimal and centesimal triturations. Besides these, there is an oleate of morphine.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Oleate.—In *one hundred and ninety-eight parts* of oleic acid dissolve *two parts* of sulphate of morphine. Triturate the morphine with a small quantity of the acid until the salt is dissolved; then add the balance of the oleic acid and agitate the solution thoroughly.

MORUS RUBRA. (*mo'rus ru'bra.*)

NAT. ORDER, Urticaceæ.

VULG., Red mulberry.

This tree is indigenous to the Northern, Middle, and Western States of North America.

The Preparations of the bark of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or. each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol. sp. gr. '835, *one part* of each succeeding dilution.

MOSCHUS. (*mos'kus.*)

CLASS, Mammalia.
ORDER, Ruminantia.
FAMILY, Moschina.
SYN., Moschus moschiferus, M. orientalis, M. tibetanus, M. tunquinensis.
VULG., Musk.

This odoriferous substance is the dried inspissated secretion from the preputial fossicles of the *moschus moschiferus:* the musk deer, inhabiting the mountainous regions of Central Asia.

The Preparations of moschus are the tincture, its decimal and centesimal dilutions, and its decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of genuine tonquin musk. Transfer the musk to a suitable vessel, add the alcohol and macerate for fourteen days, and filter.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of tonquin musk.

Dilutions.—To prepare the *first decimal* dilution it requires to *two parts* of alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Triturations.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of tonquin musk. Deposit the musk in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of tonquin musk. Deposit the musk in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the musk, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk

sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MUREX. (*mu'rex.*)

CLASS, Mollusca.
ORDER, Gasteropoda.
FAMILY, Muricidæ.
SYN., Murex brandaris, M. purpurea, Purpura patula.
VULG., Purple sea snail.

This mollus inhabits the waters of the Adriatic and Mediteranean seas.

The preparations of the animal tissue of the sea snail are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* animal tissue. Transfer the sea snail to a Wedgewood mortar, bruise thoroughly and place in a suitable vessel and add the alcohol and macerate for seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh mollus.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MYRICA CERIFERA. (*me-ri'ca ce-rif'e-ra.*)

NAT. ORDER, Myricaceæ.
VULG., Bayberry, Candle berry, Myrtle bayberry tree, Sweet gale, Wax berry, Wax myrtle.

This evergreen shrub, growing along the shores of the inland lakes, and also on the Atlantic coast, is indigenous to the United States of North America.

The Preparations of the bark of the root of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine* *parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture: the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MYRISTICA SEBIFERA. (*me-ris'te-ca se-bi-fe'ra.*)

NAT. ORDER, Myristicaceæ.
SYN., Virola sebifera.
VULG., Brazilian ucuba.

This tree is an habitat of South America.

The Preparations of the gum (concreted red sap) are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the gum. Deposit the gum in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* ot the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the gum. Deposit the gum in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the gum, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MYRRHA. (*mer'rha.*)

NAT. ORDER, Burseraceæ.
SYN., Balsamodendron myrrha.
VULG., Myrrh.

This substance is a concrete gum-resinous exudation from the bark of the *balsamodendron myrrha*, a small tree growing in Arabia.

The Preparations of gum myrrh are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. 835, and *two parts* of gum myrrh. Powder the gum coarsely, transfer to a suitable vessel and and add the alcohol and macerate with frequent agitation until the gum is dissolved. Filter, and add sufficient alcohol (sp. gr. '835), that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of gum myrrh.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MYRTUS COMMUNIS. (*mer'tus com-mu'nis.*)

NAT. ORDER, Myrtaceæ.

VULG., Myrtle.

This shrub is an habitat of Europe, Asia and Africa.

The Preparations of the bark of the young shoots, of the leaves and berries, are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* (each) of the recently dried bark, leaves and berries. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NABULUS ALBUS. (*nab'u-lus al'bus.*)

NAT. ORDER, Compositæ.

SYN., Nabulus serpentaria, Prenanthes alba, P. serpentaria.

VULG., Cancer weed, Gall of the earth, Lion's foot, Rattlesnake master (?), Rattlesnake root, White lettuce.

This plant, an indigenous perennial, is found growing in rich, moist soils, in shady places, throughout the Middle and Northern United States.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp..gr. 835, *one part* of each succeeding dilution.

MITCHELLA REPENS. (*mit-chel'la re'pens.*)

NAT. ORDER, Rubiaceæ.

VULG. Checker berry (?), Deer berry (?), One berry, Partridge berry (?), Squaw vine, Winter clover.

This evergreen plant, a perennial creeper, is indigenous to North America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MOMORDICA BALSAMINA. (*mo-mor'de-ka bal-sa-mi'na.*)

NAT. ORDER, Cucurbitaceæ.

VULG., Balsam apple.

This plant, an annual climber, is indigenous to the East Indies. The plant is also cultivated in the United States of North America.

The Preparations of the ripe fruit of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of momordica.*

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the ripe fruit. Chop up and bruise the fruit in a Wedgewood mortar, express the juice and add sufficient alcohol (sp. gr. '835), that the mixture shall have the specific gravity of '941, and add enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts.* Transfer the bruised fruit to a suitable vessel and add the menstruum and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the ripe fruit.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *seventy-five parts* of lard and *fifteen parts* of yellow wax add *ten parts* of sound ripe fruit. Fuse the lard and wax together and constantly stir until cold; scald and peel the fruit, bruise it to a pulp, and remove the seeds by passing it through a moderately fine sieve. Finally, gradually add to the ointment and thoroughly mix with the aid of a bone or wooden spatula.

MONARDA. (*mo-nar'da.*)

NAT. ORDER, Labiatæ.
SYN., Monarda punctata.
VULG., Horsemint.

This herbaceous perennial plant is indigenous to the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fifteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MONOTROPA UNIFLORA. (*mon-o-tro'pa u-ni-flo'ra.*)

NAT. ORDER, Galacineæ.

SYN., M. morisoniana.

VULG., Bird's nest, Corpse plant, Fit plant, Fit root, Ice plant (?), Indian pipe, Ova ova, Pine sap, Pipe plant.

This succulent annual plant is an habitat of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MORPHIUM. (*mor'fe-um.*)

SYN., Morphia, Morphium purum, Morphinum.

VULG., Morphine.

Formula.—$C^{17} H^{19} NO^{3}, H^{2} O$; 303.

This alkaloidal crystalline salt of opium is obtained by saturating an infusion of opium first with alcohol and then with water of ammonia. The morphia crystallizes out in short, transparent, colorless prisms. The crystals are slightly soluble in water; are soluble in about 500 parts of boiling water, and in 100 parts of alcohol at (15° C.), 59° F.

The Preparations of pure morphine are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of morphine. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of morphine. Deposit the alkaloid in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MORPHIUM ACETICUM. (*mor'fe-um a-cet'i-cum.*)

SYN., Acetas morphicus, Morphia acetate, Morphiæ acetas, Morphinum aceticum.

VULG., Acetate of morphine.

Formula.—$C^{17} H^{19} NO^{3}$. $HC^{2} H^{3} O^{2}$. $3 H^{2} O$; 399.

This salt is obtained by dissolving pure morphia in diluted acetic acid. The solution is gradually evaporated over a water-bath, and is constantly stirred with a glass rod until dry.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acetate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acetate. Deposit the acetate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MORPHIUM MURIATICUM. (*mor'fe-um mu-ri-at'i-cum.*)

SYN., Hydrochloras morphicus, Morphia hydrochlorate, Morphia muriatica, Morphiæ hydrochloras, M. murias, Morphinum hydrochloricum.

VULG., Hydrochlorate of morphine, Muriate of morphine.

Formula.—$C^{17}H^{19}NO^{3}$, HCl, $3H^{2}O$; 375.4.

This salt is obtained by dissolving pure morphia in distilled water slightly acidulated with muriatic acid. The solution is evaporated, and the feathery, silk-like acicular prisms crystallize out. The crystals are soluble in about twenty-five parts of water and in sixty parts of alcohol (15° C.) 59° F.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the muriate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar, and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the muriate. Deposit the muriate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MORPHIUM SULPHURICUM. (*mor'fe-um sul-fu'ri-cum.*)

SYN., Morphia sulphate, Morphiæ sulphas, Morphinum sulphuricum, Sulphas morphicus.

VULG., Sulphate of morphia.

Formula.—$(C^{17}H^{19}NO^{3})^{2}$. $H^{2}SO^{4}$. $5H^{2}O$; 758.

This salt is obtained by dissolving pure morphia in distilled water slightly acidulated with sulphuric acid. The solution is evaporated, and the feathery, acicular prisms in form of white fasciculi crystallize out. The crystals of pure sulphate of morphia (uncombined with morphium) are soluble in 2.4 parts of water and in 700 parts of alcohol (15° C.) 59° F.

Tests.—Salts of morphia are first made crimson red and then yellow, when treated with strong nitric acid.

The Preparations of this salt are the decimal and centesimal triturations. Besides these, there is an oleate of morphine.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Oleate.—In *one hundred and ninety-eight parts* of oleic acid dissolve *two parts* of sulphate of morphine. Triturate the morphine with a small quantity of the acid until the salt is dissolved; then add the balance of the oleic acid and agitate the solution thoroughly.

MORUS RUBRA. (*mo'rus ru'bra.*)

NAT. ORDER, Urticaceæ.

VULG., Red mulberry.

This tree is indigenous to the Northern, Middle, and Western States of North America.

The Preparations of the bark of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol. sp. gr. '835, *one part* of each succeeding dilution.

MOSCHUS. (*mos'kus.*)

CLASS, Mammalia.
ORDER, Ruminantia.
FAMILY, Moschina.
SYN., Moschus moschiferus, M. orientalis, M. tibetanus, M. tunquinensis.
VULG., Musk.

This odoriferous substance is the dried inspissated secretion from the preputial fossicles of the *moschus moschiferus:* the musk deer, inhabiting the mountainous regions of Central Asia.

The Preparations of moschus are the tincture, its decimal and centesimal dilutions, and its decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of genuine tonquin musk. Transfer the musk to a suitable vessel, add the alcohol and macerate for fourteen days, and filter.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of tonquin musk.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* of alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of tonquin musk. Deposit the musk in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of tonquin musk. Deposit the musk in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the musk, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk

sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MUREX. (*mu'rex.*)

CLASS, Mollusca.
ORDER, Gasteropoda.
FAMILY, Muricidæ.
SYN., Murex brandaris, M. purpurea, Purpura patula.
VULG., Purple sea snail.

This mollus inhabits the waters of the Adriatic and Mediteranean seas.

The preparations of the animal tissue of the sea snail are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* animal tissue. Transfer the sea snail to a Wedgewood mortar, bruise thoroughly and place in a suitable vessel and add the alcohol and macerate for seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh mollus.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MYRICA CERIFERA. (*me-ri'ca ce-rif'e-ra.*)

NAT. ORDER, Myricaceæ.
VULG., Bayberry, Candle berry, Myrtle bayberry tree, Sweet gale, Wax berry, Wax myrtle.

This evergreen shrub, growing along the shores of the inland lakes, and also on the Atlantic coast, is indigenous to the United States of North America.

The Preparations of the bark of the root of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine* *parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture: the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MYRISTICA SEBIFERA. (*me-ris'te-ca se-bi-fe'ra.*)

NAT. ORDER, Myristicaceæ.
SYN., Virola sebifera.
VULG., Brazilian ucuba.

This tree is an habitat of South America.

The Preparations of the gum (concreted red sap) are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the gum. Deposit the gum in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the gum. Deposit the gum in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the gum, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

MYRRHA. (*mer'rha.*)

NAT. ORDER, Burseraceæ.
SYN., Balsamodendron myrrha.
VULG., Myrrh.

This substance is a concrete gum-resinous exudation from the bark of the *balsamodendron myrrha*, a small tree growing in Arabia.

The Preparations of gum myrrh are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. 835, and *two parts* of gum myrrh. Powder the gum coarsely, transfer to a suitable vessel and and add the alcohol and macerate with frequent agitation until the gum is dissolved. Filter, and add sufficient alcohol (sp. gr. '835), that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of gum myrrh.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

MYRTUS COMMUNIS. (*mer'tus com-mu'nis.*)

NAT. ORDER, Myrtaceæ.

VULG., Myrtle.

This shrub is an habitat of Europe, Asia and Africa.

The Preparations of the bark of the young shoots, of the leaves and berries, are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* (each) of the recently dried bark, leaves and berries. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NABULUS ALBUS. (*nab'u-lus al'bus.*)

NAT. ORDER, Compositæ.

SYN., Nabulus serpentaria, Prenanthes alba, P. serpentaria.

VULG., Cancer weed, Gall of the earth, Lion's foot, Rattlesnake master (?), Rattlesnake root, White lettuce.

This plant, an indigenous perennial, is found growing in rich, moist soils, in shady places, throughout the Middle and Northern United States.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NAJA TRIPUDIANS. (*na'ja tri-pu'di-ans.*)

CLASS, Reptilia.
ORDER, Squamata.
FAMILY, Elapidæ.
SYN., Cobra di capello, Coluber naja.
VULG., Hooded snake (Hindostan).

The Preparations of the venom of this reptile are the centesimal triturations.

TRITURATIONS.—The *first centesimal* trituration requires *ninety parts* of milk sugar to *ten parts* of the first decimal trituration.* Deposit the first decimal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the first decimal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NAPHTHALINUM. (*nap-tha-li'num.*)

SYN., Naphthalin, Naphthalene.
VULG., Naphthalin.
Formula.—$C^{10}H^{8}$; 128.

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* The venom of this reptile is alleged to have been secured, heretofore, by being pressed from the poison sac of the living serpent and mixed with alcohol or alcohol and glycerin in proportions of *one part* of the former to *nine parts* of the latter; thereby making a solution which represents, in drug power, a strength equal to the first decimal dilution. It is suggested that the venom be secured in this instance as in the case of that of the *crotalus horridus* (See Foot note Page 183) by triturating the poison (one part) with milk sugar (nine parts.)

This substance, in form of colorless transparent crystalline laminæ, is found as one of the bi-products in the distillation of coal tar. The crystals are quite insoluble in water, are freely soluble in hot alcohol, in bisulphide of carbon, chloroform, ether, and also in both the fixed and volatile oils.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of naphthalin. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of naphthalin. Deposit the naphthalin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NARCISSUS PSEUDO-NARCISSUS. (*nar-cis'sus pseu'do nar-cis'sus.*)

NAT. ORDER, Amaryllidaceæ.
VULG., Daffodil, Narcissus.

This bulbous plant is an indigene of Southern Europe.

The Preparations of the bulb and flowers of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fourteen parts* of alcohol, sp. gr. '941, and *two parts* each of the *fresh* bulbs and flowers. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NATRUM ARSENICICUM. (*na'trum ar-sen-i-si'cum.*)

SYN., Arsenlas natricus, A. sodicus, Hydras-disodic arseniate, Natri arsenias, Natrum arsenicatum, Sodæ arsenias, Sodii arsenias, Sodium arseniate.

VULG., Arseniate of soda (?), Arseniate of sodium.

Formula.—$Na^2\,HAs\,O^4$. $7\,H^2\,O$; 311.9.

The colorless, transparent, prismatic crystals of arseniate of soda are obtained by fusing a mixture composed of arsenious acid, carbonate of sodium, and nitrate of sodium and dissolving the solidified mass in hot water; the solution is then filtered and set aside that crystallization shall occur. The salt is soluble in 2.7 parts of water at (15° C.) 59° F.

The Preparations* of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the arseniate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the arseniate. Deposit the arseniate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM ARSENICOSUM. (*na'trum ar-sen-i-co'sum.*)

SYN., Arseniosus nitricus, A. sodicus, Natri arseniosus, Sodæ arsenicosum, Sodium arsenite.

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*LIQUOR SODÆ ARSENIATIS (U. S.) is prepared by heating arseniate of soda at a temperature not exceeding 300° F.; of this anhydrous salt ($Na^2\,HAs\,O^4$) *four grains* are dissolved in *one fluidounce* of distilled water.

VULG., Arsenite of soda. Arsenite of sodium.

Formula.—Na H^2 As O^3.

This salt is obtained by dissolving arsenious acid in a solution of carbonate of sodium; the solution is boiled for some time, the carbonate being thus decomposed an arsenite is formed and is held in solution. The solution is afterward evaporated to dryness.

The Preparations* of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the arsenite. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the arsenite. Deposit the arsenite in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM BENZOICUM. (*na'trum ben-zo'i-cum.*)

SYN., Sodæ benzoicum, Sodii benzoas.

VULG., Benzoate of sodium.

Formula.—Na C^7 H^5 O^2. H^2 O; 162.

This salt is obtained by saturating a solution of benzoic acid with carbonate of sodium. The amorphous cream-white powder is soluble in two parts of water and in 44.7 parts of alcohol (15° C.) 59° F.

The Preparations of this salt are the decimal and centesimal triturations.

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* An *arsenite* is distinguished from an arseniate salt by treating an aqueous solution, slightly acidulated with hydrochloric acid, with hydrosulphuric acid. The solution if containing an arsenite salt, *immediately* yields a yellow colored precipitate (sulphide of arsenic).

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the benzoate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the benzoate. Deposit the benzoate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM BICARBONICUM. (*na'trum bi-car-bon'i-cum.*)

SYN., Bicarbonas sodicus, Natrum carbonicum acidulum, Sodæ bicarbonas, Sodii bicarbonas, Sodium hydrocarbonate.

VULG., Bicarbonate of soda, Bicarbonate of sodium.

Formula.—$Na\ HCO^3$; 84.

This salt is prepared by saturating a mixture composed of the anhydrous carbonate of soda and carbonate of soda, in crystals, with carbonic acid gas.

The Preparations of this salt are the solution and its decimal and centesimal dilutions.

The Solution.—In *ninety-nine parts* of distilled water dissolve *one part* of carbonate of sodium.

The *drug strength* of this solution is equal to either the second decimal dilution, or, to the first centesimal *dilution*.

DILUTIONS.—To prepare the *third decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the *solution;* the *fourth decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the third decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the *solution;* the *third centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the second centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NATRUM BROMATUM. (*na'trum bro-ma'tum.*)

SYN., Bromuretum sodicum, Natrum hydrobromicum, Sodii bromidum, Sodium bromide.

VULG., Bromide of Sodium.

Formula.—$NaBr$; 102.8.

The white mono-clinic or rhombic prisms of bromide of sodium are obtained by decomposing a solution of bromine of iron with a solution of carbonate of sodium. The precipitate is separated from the supernatant liquid by filtering; the filtrate is evaporated and set aside for crystallization. The crystals of bromide of sodium are soluble in 1.3 parts of water and in 12.9 parts of alcohol at (15° C.) 59° F.

The Preparations[*] of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the bromide. Deposit the salt in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the bromide. Deposit the bromide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM CARBONICUM. (*na-trum car-bon'i-cum.*)

SYN., Carbonas sodicus, Disodic carbonate, Natrum carbonicum crudum, Salsodæ, Sodæ carbonas, Sodic carbonate, Sodii carbonas, Sodium carbonate.

VULG., Carbonate of sodium, Sal soda, Washing soda.

Formula.—$Na^2CO^3.\ 10H^2O$; 286.

Carbonate of sodium results from treating chloride of sodium with sulphuric acid, then roasting the sulphate thus formed with lime stone. The carbonate of sodium is dissolved out and the solution being evaporated the salt is again roasted with sawdust; the product is now termed *soda ash.* The crude carbonate, or soda ash, being dissolved in water and crystallized, is the official salt. Carbonate of sodium is soluble in two parts of water at (15° C.) 59° F., but is almost wholly insoluble in alcohol.

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[*] The bromide is distinguished from the iodide salt by treating an aqueous 10 per cent solution, first, with gelatinized starch and afterward with a few drops of chlorine water. *Iodine* being present, a blue colored zone will appear at the line of contact.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the carbonate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the carbonate. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM HYPOPHOSPHORICUM. (*na'trum hy-po-fos-four'i-cum.*)

SYN., Hypophosphis sodicus, Natri hypophosphis, Sodæ hypophosphis, Sodic hypophosphite, Sodii hypophosphis.

VULG., Hypophosphite of soda, Hypophosphite of sodium.

Formula.—$Na\,H^2\,PO^2.\ H^2\,O$; 106.

This granular salt is obtained by treating an aqueous solution of hypophosphite of lime with a solution of carbonate of sodium. The lime is precipitated as a carbonate; the hyposulphite of sodium is held in solution and, after filtering, is evaporated to dryness. Hypophosphite of soda is soluble in about one part of water and 29.5 parts of alcohol at (15° C.) 59° F.

Tests.—An aqueous solution when treated with an acid should not effervesce, thus showing the absence of a *carbonate;* nor, when treated with a solution of oxalate of ammonium should it yield a precipitate or become turbid, thus showing the absence of *calcium*.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the hypophosphite of soda. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the hypophosphite of soda. Deposit the hypophosphite in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-thre parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM HYPOSULPHUROSUM. (*na'trum hy-po-sul-fu-ro'sum.*)

SYN., Sodæ hyposulphite, Sodii hyposulphis.

VULG., Hyposulphite of soda, Hyposulphite of sodium.

Formula.—$Na^2 S^2 O^3. 5 H^2 O$; 248.

This salt, in the form of large, mono-clinic prisms, is obtained by heating a saturated solution of sulphite of sodium and a limited quantity of free sulphur together until combination occurs. The solution of hyposulphite of soda being separated from excess of sulphur by filtering is set aside for crystallization. The salt is soluble in 1.7 parts of water at (15° C.) 59° F.; it is insoluble in alcohol.

Tests.—To determine the nature of an unknown salt, to verify its being a hyposulphite, make an aqueous 10 per cent solution and treat with a few drops of diluted sulphuric acid; if the acidulous radical be hyposulphurous acid it will be immediately set free and will subsequently decompose.

The Preparations of this salt are the decimal and centesimal triturations.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NUPHAR LUTEUM. (*nu'far lu'te-um.*)

NAT. ORDER, Nymphæaceæ.

SYN., Nenuphar luteum, Nymphæa lutea.

VULG., European pond lily, Small yellow pond lily.

This plant is indigenous to Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NUX MOSCHATA. (*nux mos-ka'ta.*)

NAT. ORDER, Myristiceæ.

SYN., Myristica aromatica, M. fragrans, M. moschata, M. officinalis,

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide of sodium. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM MURIATICUM. (*na'trum mu-rĭ-at'i-cum.*)

SYN., Chloruretum sodicum, Natrum chloratum purum, Natrum hydrochloricum, Sodic chloride, Sodii chloridum, Sodium chloride.

VULG., Chloride of sodium, Bay salt, Common salt, Rock salt, Sea salt, Table salt.

Formula.—$\mathrm{Na\ Cl}$; 58.4.

Tests.—An aqueous 10 per cent solution of chloride of sodium when treated with a solution of bitartrate of sodium should not yield a precipitate or become turbid, thus showing the absence of *alkaline earth;* treated with a solution of chloride of barium it should not yield a precipitate or become turbid, thus showing the absence of a *sulphate;* or, treated with hydrosulphuric acid or sulphydrate of ammonium it should not yield a colored precipitate, thus indicating the presence of *metals.*

The Preparations of this salt are the solution, its decimal and centesimal dilutions and its decimal and centesimal triturations.

The Solution.—In *nine parts* of distilled water dissolve *one part* of pure chloride of sodium.

This solution *in drug strength,* is equal to the first decimal *dilution.*

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of distilled water *one part* of the *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of distilled water *ten parts* of the *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. ·941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chloride of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the chloride of sodium. Deposit the chloride in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM NITRICUM. (*na'trum ni'tri-cum.*)

SYN., Nitras natricus, N. sodicus, Nitrum cubicum, Sodæ nitras, Sodic nitrate, Sodii nitras, Sodium nitrate.

VULG., Chili saltpetre, Cubic nitre, Nitrate of soda, Nitrate of sodium.

Formula.—Na NO^3; 85.

As a natural product this substance is found in Peru, Bolivia and Chili. Associated with the chlorides and sulphates of soda, lime and magnesia, it forms, particularly in Northern Chili, beds or deposits of vast extent. In Chili, the product is known under the name of *caliche* or *terra salitrosa.* Separated from other saline products, nitrate of sodium crystallizes in colorless obtuse rhombohedrals. The crystals are soluble in 1.4 parts of water, and are but slightly soluble in alcohol at (15° C.), 59° F.

Tests.—An aqueous saturated solution when treated with sulphuric acid should not effervesce, thus showing the absence of *carbonates;* acidulated with nitric acid and afterward treated with a solution of nitrate of barium, the solution should not yield a precipitate or even become turbid, thus showing the absence of *sulphates;* nor, should any turbidness occur on the addition of a solution of nitrate of silver (to the acidulated solution), thus showing the absence of *chlorides*.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the nitrate of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the nitrate of sodium. Deposit the nitrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM PHOSPHORICUM. (*na'trum fos-four'i-cum.*)

SYN., Hydro-disodic phosphate, Nitri phosphas, Phosphas natricus, P. sodicus, Sodæ phosphas, Sodii phosphas, Sodium phosphate.

VULG., Phosphate of soda, Phosphate of sodium.

Formula.—$Na_2 HSO^4$. $12 H^2 O$; 358.

The large, colorless, rhombic prisms of sodium phosphate are obtained by digesting bone-earth in diluted sulphuric acid in a warm atmosphere and subsequently filtering off the liquid portion (phosphate of lime), evaporating it, and while hot adding to it a solution of carbonate of sodium. The sodium is added as long as a precipitate (phosphate of lime) continues to fall. The liquid (solution of phosphate of sodium) is now decanted or filtered off, and is further evaporated and set aside for crystallization. The crystals of phosphate of sodium are soluble in 6.2 parts of water at (15° C.) 59° F., but are insoluble in alcohol.

Tests.—An aqueous 10 per cent solution of phosphate of sodium when treated with hydrochloric acid should not effervesce, thus showing the absence of *carbonates;* another portion of the same acidulated solution when treated with sulphide of ammonium should not yield a colored precipitate, thus showing the absence of *metals*. The solution, acidified with nitric acid, when treated with a solution of nitrate of barium should not yield a precipitate or even become turbid, thus showing the absence of *sulphates.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the phosphate of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphate of sodium. Deposit the phosphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM PYROPHOSPHORICUM. (*na'trum pyro-fos-four'i-cum.*)

SYN., Sodii pyrophosphas, Sodium pyrophosphate.

VULG., Pyrophosphate of soda, Pyrophosphate of sodium.

Formula.—$Na^4 P^2 O^7 . 10 H^2 O$; 446.

This salt is prepared by heating the ordinary phosphate of sodium to redness, in a crucible. It may also be prepared by saturating (neutralizing) pyrophosphoric acid with carbonate of sodium. The large, colorless rhombohedral crystals are soluble in twelve parts of water at (15° C.) 59° F., but are insoluble in alcohol.

Tests.—An aqueous solution of the pyrophosphate of sodium when treated with hydrochloric or nitric acid should not effervesce, thus showing the absence of a *carbonate;* the solution acidified with nitric acid when treated with a solution of nitrate of barium should not yield a precipitate or become turbid, thus showing the absence of a *sulphate.* Treated with a solution of nitrate of silver the dense, white pyrophosphate (silver) greatly differs in appearance with the *meta phosphate,* which is gelatinous, and with the *ortho-phosphate* the color of which is yellow.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the pyrophosphate of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the pyrophosphate of sodium. Deposit the pyrophosphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM SALICYLICUM. (*na'trum sal-i-cil'i-cum.*)

SYN., Sodii salicylas, Sodium salicylate.

VULG., Salicylate of soda, Salicylate of sodium.

Formula.—$2\ Na\ C^7\ H^5\ O^3.\ H^2\ O$; 338.

This salt is prepared by saturating a solution of soda (carbonate and bicarbonate) with salicylic acid. The minute, white crystalline plates of salicylate of sodium are soluble in 1.6 parts of water at (15° C.) 59° F.; they are insoluble in alcohol.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the salicylate of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the salicylate of sodium. Deposit the salicylate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM SULPHO-CARBOLICUM. (*na'trum sul-fo-car-bol'i-cum.*)

SYN., Sodii sulpho-carbolas, Sodium sulpho-carbolate.

VULG., Sulpho-carbolate of soda, Sulpho-carbolate of sodium.

Formula.—$Na\,C^6\,H^5\,SO^4.\ 2\,H^2\,O$; 232.

This salt is prepared by treating, first, pure carbolic acid with pure sulphuric acid and then saturating the resulting *sulpho-carbolic* or *sulphophenic acid* (dilute l) with carbonate of sodium. The solution is filtered and then evaporated to a proper density when the salt crystallizes out in colorless, transparent, rhombic prisms. Sulpho-carbolate of sodium is soluble in 5.2 parts of water and in 130 parts of alcohol at (15° C.) 59° F.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulpho-carbolate of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar, and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulpho-carbolate of sodium. Deposit the sulpho-carbolate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM SULPHURICUM. (*na'trum sul-fu'ri-cum.*)

SYN., Sal mirabile, Soda vitriolata, Sodæ sulphas, Sodic sulphate, Sodii sulphas, Sodium sulphate, Sulfas nitricus, Sulfas sodicus, Sulphas natricus.

VULG., Glauber's salt, Sulphate of soda, Sulphate of sodium.

Formula.—$Na^2SO^4 19 H^2O$; 322.

As a natural product this salt is obtained from various sources. Artificially, it is a product of several chemical processes. It is commonly obtained as a by-product in the generation of carbonic acid gas for artificial mineral waters. Bicarbonate of sodium is treated with diluted sulphuric acid; carbonic acid gas being eliminated, the sulphuric acid unites with the sodium forming sulphate of sodium. The large, colorless, oblique, right rhombic prisms are inclined to rapid effervescence; they are soluble in 2.7 parts of water at (15° C.) 59° F., but are insoluble in alcohol.

Tests.—An aqueous 10 per cent solution of sulphate of sodium when treated with hydrochloric acid should not effervesce, thus showing the absence of a *carbonate;* the same solution acidulated with nitric acid, when treated with a solution of nitrate of silver, should not yield a precipitate or become turbid, thus showing the absence of a *chloride.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate of sodium. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NATRUM SULPHUROSUM. (*na'trum sul-fu-ro'sum.*)

SYN., Natri sulphis, Sulfis natricus, S. sodicus, Sodic sulphide, Sodii sulphis.

VULG., Sulphite of soda, Sulphite of sodium.

Formula.—$Na^2 SO^3 . 7 H^2 O$; 252.

This salt is prepared by charging a solution of carbonate of sodium with sulphurous acid gas. The solution is evaporated and being set aside to cool the sulphite crystallizes out in form of colorless, transparent, monoclinic prisms. Sulphite of soda is soluble in 3.8 parts of water at (15° C.) 59° F.; it is slightly soluble in alcohol.

Tests.—An aqueous solution of this salt when treated with diluted hydrochloric acid has the odor of sulphurous acid gas. The solution thus acidulated, when treated with a solution of chloride of barium, should not yield a precipitate or even become turbid, thus showing the absence of a *sulphate.*

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphite of sodium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphite of sodium. Deposit the sulphite in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NEPETA CATARIA. (*nep'e-ta ca-ta'ri-a.*)

NAT. ORDER, Labiatæ.
SYN., Cataria vulgaris, Herba felis.
VULG., Nep, Catnep, Catnip, Catmint.

This herbaceous perennial plant is indigenous to both Europe and Asia. It grows wild, and is also extensively cultivated in the United States of America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr.'941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NICCOLUM CARBONICUM. (*nic'co-lum car-bon'i-cum.*)

VULG., Carbonate of nickel.

Formula.—CO_3 Ni.

This substance, a pale green colored powder, is prepared by dissolving pure oxide of nickel in nitric acid, diluting the solution and treating it with bicarbonate of sodium.

(For Preparations See Niccolum Sulphate.)

NICCOLUM SULPHURICUM. (*nic'co-lum sul-fu'ri-cum.*)

SYN., Niccoli sulphas.

VULG., Sulphate of nickel.

Formula.—Ni SO^4 7 H^2 O.

This salt is prepared by dissolving carbonate of nickel in diluted sulphuric acid, evaporating the solution and setting it aside for crystallization. The emerald-green crystals are soluble in 3.7 parts of water at (15° C.) 59° F.: they are insoluble in alcohol.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate of nickel. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar

one part of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate of nickel. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NICOTINUM. (*nic-o-te'num.*)

SYN., Nicotia, Nicotina, Nicotylia.
VULG., Nicotin, Nicotine.

Formula.—$C^{10} H^{14} N^{2}$; 162.

This oily, colorless liquid is obtained from the *nicotiana tabacum* by a series of processes which are quite impracticable to the general pharmacist.

The Preparations of this substance are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of nicotin; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety- parts* of alcohol. sp. gr. '835, *ten parts* of the first decimal dilution; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NIGELLA DAMASCENA. (*ni-gel'la da-mas-se'na.*)

NAT. ORDER, Ranunculaceæ.
VULG., Fennel flower, Ragged lady.

NIGELLA SATIVA. (*ni-gel'la sa-ti'va.*)

NAT. ORDER, Ranunculaceæ.
VULG., Black caraway, Nutmeg flower, Small fennel flower.

These two species of nigella, both annuals, are indigenous to Southern Europe.

The Preparations of the seeds of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, *moisten* with the alcohol, firmly pack in a conical percolator; add the alcohol, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this solution is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourths parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NITRI SPIRITUS DULCIS. (*ni'tri speer'i-tus dul'cis.*)

SYN., Naptha nitri, Spiritus ætheris nitrosi, S. nitri dulcis, S. nitrico æthereus.

VULG., Alcoholized nitric ether, Spirits of nitrous ether, Sweet spirit of nitre.

This fluid substance is a diluted distillate from an admixture of nitric acid, sulphuric acid, alcohol and copper wire. Sweet spirit of nitre is a colorless, volatile liquid, highly inflamable, having a sp. gr. '825, and is miscible in all proportions with alcohol.

The Preparations of sweet spirit of nitre are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '835, *one part* of sweet spirit of nitre; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the sweet spirit of nitre; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NUPHAR ADVENA. (*nu'far ad've-na.*)

NAT. ORDER, Nymphæaceæ.

SYN., Nymphæa advena.

VULG., Spatterdock, Yellow pond lily.

This plant is a native, both of Canada and the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NUPHAR LUTEUM. (*nu'far lu'te-um.*)

NAT. ORDER, Nymphæaceæ.
SYN., Nenuphar luteum, Nymphæa lutea.
VULG., European pond lily, Small yellow pond lily.

This plant is indigenous to Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol. sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

NUX MOSCHATA. (*nux mos-ka'ta.*)

NAT. ORDER, Myristiceæ.
SYN., Myristica aromatica, M. fragrans, M. moschata, M. officinalis,

Nuces aromaticæ, N. nucistæ, Nuclei myristicæ, Nux myristica, Semen myristica.

VULG., Nutmeg.

The nutmeg is the kernel of the fruit of the *myristica moschata.* The tree is indigenous to the East Indies.

The Preparations of the dried nut are the tincture, its decimal and centesimal dilutions and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of nutmeg. Run the nutmeg through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried nut.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the nutmeg. Deposit the drug in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the nutmeg. Deposit the nutmeg in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NUX VOMICA. (*nux vom'i-ca.*)

NAT. ORDER, Loganiaceæ.

SYN., N. v. officinarum, Solanum arborean indicum maximum, Strychnos colubrina, S. ligustrina, S. nux vomica.

VULG., Dog button, Poison nut, Quaker buttons.

The tree, *strychnos nux vomica*, is an indigene of the East Indies. The officinal portion **is the seed.**

The Preparations of the seeds are the tincture, its decimal and centesimal dilutions and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of nux vomica. Rasp and finely powder the seeds, transfer to a suitable vessel, *moisten* with hot (112° F.) water, digest for ten or twelve hours and firmly pack in a conical percolator; cover the drug with alcohol, tightly close the percolator and macerate for twenty-four hours; add the alcohol, from time to time, until the percolate measures fourteen parts, then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the powdered seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered seeds. Deposit the drug in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered seeds. Deposit the nux vomica in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the drug, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

NYMPHÆA ODORATA. (*nim'fa o-do-ra'ta.*)

NAT. ORDER, Nymphæaceæ.

SYN., Castalia pudica, Nymphæa alba.

VULG., Beaver root, Cow cabbage, Cow lily, European white water

lily, Frog lily, Spatter dock, (?) Sweet scented white pond lily, Sweet water lily, Toad lily, Water cabbage, Water lily, Water nymph, White lily, White pond lily.

This herbaceous perennial is indigenous to the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OCYNUM BAZILICUM. (*o'ci-num ba-zil'i-cum.*)

NAT. ORDER, Labiatæ.
SYN., Bazilicum majus.
VULG., Common bazil, Citron bazil.

OCYNUM CANUM. (*o'ci-num ca'num.*)

NAT. ORDER, Labiatæ.
VULG., Alfaraca, Hoary bazil.

These plants (both annuals), are indigenous to India and South America.

The Preparations of the leaves of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** of alcohol, sp. gr. '941, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

ŒNANTHE CROCATA. (*o-nan'the cro-ca'ta.*)

NAT. ORDER, Umbelliferæ.

SYN., Œapiifolia.

VULG., Dead tongue, Drop water, Hemlock dropwort, Hemlock water dropwort, Water hemlock, Water lovage, Yellow water drop.

This perennial plant is indigenous to Southern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '941, and ***four parts*** of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel. add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 25 per cent; or, each minim contains the medicinal properties of ***one-fourth grain*** of the recently dried root.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***six parts*** of alcohol, sp. gr. '941, ***four parts*** of tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** of alcohol, sp. gr. '941, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

ŒNOTHERA BIENNIS. (*o-no-the'ra ben'nis.*)

NAT. ORDER, Onagraceæ.

SYN., Œnonthera ganroides, Œ. parviflora, Onagra biennis, O. vulgaris, Onosuris acuminata.

VULG., Evening primrose, Large evening primrose, Scabish, Tree primrose.

This biennial shrubby plant is indigenous to the United States of America.

The preparations of the bark and leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '941, and ***two parts*** each of the recently dried bark and leaves. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 25 per cent; or, each minim contains the medicinal properties of ***one-fourth grain*** of the recently dried bark and leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OLEANDER. (*o-le-an'der.*)

NAT. ORDER, Apocynaceæ.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OLEUM AMYGDALÆ AMARÆ. (*o'le-um a-mig'da-lah a-ma'ra.*)

VULG., Oil of bitter almond.

This colorless, limpid, volatile oil is obtained by digesting the bruised fruit kernels of the *amygdalus communis* (variety amaræ) in warm water, and subsequently separating the oil by distillation. The specific gravity of the oil is 1'06; it is soluble in about 300 parts of water at (15° C.) 59° F., and is also soluble in all proportions of alcohol, sp. gr. '835.

OLEUM AMYGDALÆ DULCIS. (*o'le-um a-mig'da-lah dul'cis.*)

VULG., Oil of almond, Oil of sweet almond.

This fixed oil is expressed from the fruit kernel of the *amyg-*

datus communis (variety dulcis). The specific gravity of this oil is ·914. It is soluble in both chloroform and ether, but is insoluble in alcohol.

OLEUM ANIMALE ÆTHERIUM. (*o'le-um an-i-ma'le e-theer'i-um.*)

SYN., Oleum animale dippelii, Oleum cornu cervi.
VULG., Bone oil (?), Dipplel's oil.

This substance, in crude form, is a fetid product resulting from the dry distillation of refuse bones. Purified by repeated distillation and rectification, it is a thin, colorless, oily liquid, possessing a specific gravity of ·970 to ·995. It is soluble in 80.5 parts of water at (15° C.) 59° F., and is freely soluble in both alcohol and ether.

The Preparations of this oil are the solution and its decimal and centesimal dilutions, and its decimal and centesimal triturations.—triturations (?).

The Solution.—To prepare the solution, dissolve in *nine parts* of alcohol, sp. gr. ·835, *one part* of the oil.

The *drug power* of this solution is equal to the first decimal *dilution*.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. ·835, *one part* of the *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. ·835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. ·835, *ten parts* of the *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ·835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oil. Deposit the oil in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oil. Deposit the oil in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the oil, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

OLEUM CAJUPUTI. (*o'le-um kaj'e-poot-i.*)

VULG., Oil of cajeput.

This volatile oil is a distillate from the leaves of *melalenca cajuputi,* a small tree indigenous to the East Indies. It is of a bright green color, limpid and transparent, and has a sp. gr. varying from '914 to '920. It is freely soluble in alcolol.

The Preparations of this oil are the solution and its decimal and centesimal dilutions.

The Solution.—To prepare the solution dissolve in *nine parts* of alcohol, *one part* of the oil.

The *drug power* of this solution is equal to the first decimal *dilution.*

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* of alcohol, sp. gr. '835, *one part* of the *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the *solution;* the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OLEUM JECORIS ASELLI. (*o'le-um jec'o-ris a'sel-li.*)

SYN., Oleum morrhuæ.
VULG., Cod-liver oil.

This fixed oil is obtained from the liver of the *gadus morrhuæ.*

The Preparations* of this oil are the decimal and centesimal triturations (?).

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the oil. Deposit the oil in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

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* An *emulsion* of cod-liver oil may be prepared as follows: Cod-liver oil *six parts*, powdered gum arabic *three parts*, bitter almond, or orange flower water *four and a half parts*. Rub the gum and a small portion of the water into a stiff paste; gradually add the oil and after thorough incorporation, add balance of water.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oil. Deposit the oil in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the oil, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

OLEUM SANTALI. (*o'le-um san'ta-li.*)

SYN., Oleum santalum album, Oleum santalum citrinum.
VULG., Oil of sandel wood.

This volatile oil is obtained by distillation from the heart-wood of the *santalum album citrinum* (?), a tree growing in the East Indies and the South Pacific Islands. The sp. gr. of this oil is '970. It is soluble, when fresh, in 80.5 parts of alcohol.

The Preparations of this oil are the solution and its decimal and centesimal dilutions.

The Solution.—To prepare the solution dissolve in *nine parts* of alcohol, sp. gr. '835, *one part* of the oil.

The *drug power* of this solution is equal to the first decimal *dilution*.

Dilutions.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the *solution;* the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the *solution;* the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OLEUM RICINI. (*o'le-um ris'e-ni.*)

SYN., Oleum Palmæ christi, Ol. Ricini africanus, Ol. R. europæus, Ol. R. lævis, Ol. R. lividus, Ol. R. viridus.
VULG., Castor oil.

This fixed oil is obtained (by expression) from the seeds of the plant *ricinus communis*. Castor oil has the sp. gr. of '960. It is soluble in one part of alcohol, sp. gr. '835, and in all proportions in absolute alcohol.

OLIBANUM. (*o-lib'a-num.*)

This gum resinous substance is an exudation from the *boswel-*

lia serrata; a tree growing in both India and Africa. This tree is thought to be the "frankincense-tree" of the ancients.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the olibanum. Deposit the resin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the olibanum. Deposit the olibanum in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ONISCUS ASELLUS. (*o'nis-cus a-sel'lus.*)

CLASS, Insecta.
ORDER, Crustacea.
FAMILY, Oniscidæ isopoda.
VULG., Sow bug, Wood louse.

The Preparations of this insect are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, add *four parts* of the *fresh* animal tissue. Crush the *living* insects and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the living insect.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ONOSIS SPINOSA. (*o-no'sis spi-no'sa.*)

NAT. ORDER, Leguminosæ.

SYN., Remora alopecuroides, R. aratrum, R. urinaria, Resta boris.

VULG., Rest harrow.

This biennial plant is an habitat of Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OPIUM. (*o'pe-um.*)

This substance is the concrete or inspissated juice of the unripe capsule of the *papaver somniferum*, or white poppy.

The Preparations of opium are the tincture, its decimal and centesimal dilutions and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of (Turkey) gum opium. Break up the opium into small pieces and drive off all moisture by submitting it to a temperature of 100° F.; reduce the dried opium to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the dried gum opium.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '941, *eight parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the dried opium. Deposit the opium in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the dried opium. Deposit the opium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the opium, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

OPOPONAX. (*o-pop'o-nax.*)

This substance is the concrete juice of the *pastinaca opoponax*, or rough parsnip, inhabiting the South of Europe.

The Preparations of this gum-resin are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *twelve parts* of alcohol, sp. gr. '835, and *four parts* of opoponax. Reduce the gum-resin to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of opoponax.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

OPUNTIA VULGARIS. (*o-pun'she-a vul-ga'ris.*)

NAT. ORDER, Cactaceæ.

SYN., Cactus opuntia, Opuntia humifusa, O. intermedia.

VULG., Indian fig, Prickly pear.

This plant, an habitat of this country, is found growing in dry sandy places all along the Atlantic coast from Massachusetts to Florida.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the fresh plant. Chop up the plant and bruise it thoroughly; express the juice and add sufficient alcohol that the mixture shall have the sp. gr. '941. Transfer the plant to a suitable vessel and add the expressed juice and alcohol, and macerate for fourteen days; add sufficient alcohol, (sp. gr. '941), that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941. *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ORIGANUM MARJORANA. (*o-rig'a-num mar-jo-ra'na.*)

NAT. ORDER, Labiatæ.
SYN., Herba amaraci, H. sampsuchi.
VULG., Knotted marjoram, Sweet marjorana.

ORIGANUM VULGARE. (*o-rig'a-num vul-ga're.*)

NAT. ORDER, Labiatæ.
VULG., Mountain mint, Organy, Wild marjoram.

The first of these two species of marjoram is indigenous to Portugal. This, and the wild marjoram are both habitats of Europe and America.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941. *four parts* of the tincture; the *second centesimal* dilution, to

ninety-nine parts of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OROBANCHE VIRGINIANA. (*or-o-ban'ke vir-gin-i-an'a.*)

NAT. ORDER, Orobanchaceæ.

SYN., Epiphegus americanus, E. virginiana.

VULG., Beech drop, Broom rape (?), Cancer root, Squaw root (?).

This parasitic plant growth, is found adherent to the roots of the American beech tree.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835,and *six parts* of the *fresh* plant. Bruise and disintegrate the plant thoroughly, express the juice and add sufficient alcohol that the mixture shall have a specific gravity of '941; transfer the plant to a suitable vessel and add the expressed juice and alcohol, and sufficient more alcohol, sp. gr. '941, to make *sixteen parts*. Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OSMIUM. (*os'mi-um.*)

Formula.—Os.; 199.

This rare metallic substance is obtained from the platinum residues by oxidation. The volatile oxide or terroxide is mixed with an excess of hydrochloric acid and is subsequently digested with mercury. The mercury is afterward driven off by distillation and the metal is left in a black pulverulent state.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the metal. Deposit the metal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the metal. Deposit the metal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

OSMORRHIZA ·LONGISTYLIS. (*os-mor-ri'za lon-gi'sti-lis.*)

NAT. ORDER, Apiaceæ.
SYN., Uraspermum claytoni.
VULG., Sweet cicely.

This plant is an habitat of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

OSTRYA VIRGINICA. (*os-tri'a vir-gin'i-ca.*)

NAT. ORDER, Cupuliferæ.
VULG., Hop horn beam, Iron wood, Lever wood.

This small tree is an habitat of the United States of America.

The Preparations of the inner *wood* of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fine chips (borings) of the inner wood, or, heart wood. Transfer to a suitable vessel, *moisten* with hot (112° F.) water, digest until cold and then add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the inner wood of the tree.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol. sp. gr. '835, *one part* of each succeeding dilution.

OXALIS. (*ox'a-lis.*)

NAT. ORDER, Oxalidaceæ.
SYN., Oxalis acetosella, O. americana (?).
VULG., Acetosella, Wood sorrel.

This herbaceous perennial plant is indigenous to both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *six parts* of the *fresh* plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '920, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '920, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PÆONIA OFFICINALIS. (*pe-o'nia of-fic-i-na'lis.*)

NAT. ORDER, Ranunculaceæ.
SYN., Herbe Sainte-rose, Rosa benedictæ, Rosa regiæ.
VULG., Peony, Piony.

This perennial plant is indigenous to Southern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the fresh root. Bruise the root thoroughly in a Wedgewood mortar, disintegrate it, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the root to a suitable vessel and add the expressed juice and alcohol, and sufficient more alcohol (sp. gr. '941), that the menstruum shall equal *sixteen parts*. Macerate the root for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PALLADIUM. (*pal-la-de'um.*)

Formula.—Pd.; 106.5.

This rare metallic substance is obtained from the platinum residues by oxidation. The residue is neutralized by carbonate of sodium and then treated with mercuric cyanide. The cyanide of palladinum, thus separated as a precipitate, is submitted to red heat and yields the metal in a spongy state.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the metal. Deposit the metal in a porcelain mortar, and add three parts of milk sugar and steadily triturate for ten minutes; add three parts more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the metal. Deposit the metal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk

sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PANACEA ARVENSIS. (*pan-a-ce'a ar-ven'sis.*)

VULG., Poor man's mercury.

This Tree, *azonque dos pobres*, *cabedula*, or *erva carneira* (native names), is indigenous to Brazil.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PANCREATINUM. (*pan-cre-at'i-cum.*)

SYN., Pancreatin.

This protein substance from the bovine pancreas is obtained by macerating the finely divided fresh gland in water acidulated with hydrochloric acid, and subsequently neutralizing the liquid with calcium carbonate. The liquid is then filtered and treated with strong alcohol; the resulting precipitate (pancreatin) is first washed, and is then dried at a moderate temperature between folds of bibulous paper.

The Preparations* of this substance are the decimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the pancreatin. Deposit the pancreatin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

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* *Pancreatine* (?). The preparation bearing this name, or that of *saccharrated pancreatine*, may be prepared in accordance with directions for the first decimal trituration. Only one-half the quantity (nine parts) of milk sugar should be used in this instance, the balance should be *cane sugar*.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

PARAFFINUM. (*par-af-fe'num.*)

SYN., Paraffin.

This substance, as a natural product, is found associated with various mineral earths, and especially in the vicinity of coal, bitumen, and petroleum deposits.

The Preparations of paraffin are the decimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of paraffin. Deposit the paraffin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

PAREIRA BRAVA. (*pa-ra'ra bra'va.*)

NAT. ORDER, Menispermaceæ.
SYN., Cissampelos pareira.
VULG., Pareira brava.

This Spanish name is given to the root of the *cissampelos pareira*, a climbing shrubby plant that is a native of South America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PARIS QUADRIFOLIA. (*pair'is quad-re-fo'lia.*)

NAT. ORDER, Liliaceæ.

SYN., Aconitum pardalianches, A. salutiferum, Herba paris, Solanum quadrifolium bacciferum, Uva lupulina.

VULG., Fox grape, Four-leaved grass, Herb paris, One berry, True love.

This plant is indigenous to Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PASSIFLORA INCARNATA. (*pas-se-flo'ra in-car-na'ta.*)

NAT. ORDER, Passifloraceæ.

VULG., May pop, Passion flower, Rose-colored passion flower, White passion flower.

This perennial plant is an habitat of the United States of America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol (sp. gr. '941). that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PAULLINIA PINNATA. (*paul-lin'i-a pin-na'ta.*)

NAT. ORDER, Sapindaceæ.

SYN., Timbo.

VULG., Guaraetimbo, Timbo-sipo, Winged-leaved paullinia.

This plant is an habitat of Brazil.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PENTHORUM SEDOIDES. (*pen'thor-um se-doi'des.*)

NAT. ORDER, Crassulaceæ.

VULG., Stone crop, Virginia stone crop.

This plant is an habitat of Canada and the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Reduce the plant to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter. and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PEPSINUM. (*pep-si'num.*)

SYN., Pepsin.

This nitrogenous substance is the carefully dried, viscid exudation from the peptic glands of the stomach of the hog.

The Preparations* of this substance are the decimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the pepsin. Deposit the pepsin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

PERSICA VULGARIS. (*per'si-ca vul-ga'ris.*)

NAT. ORDER, Rosaceæ.

SYN., Amygdalus persica.

VULG., Peach.

This tree is supposed to be a native of Persia. It is an habitat of both Europe and America.

The Preparations of the leaves and flowers of this plant are their tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* each of the *fresh* leaves and flowers. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

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* *Saccharated Pepsin*, is simply a mixture of pepsin and milk sugar; the proportions used are about equal; the pepsin, in a moist state, is mixed with the milk sugar and is afterward *air* dried.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves and flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PETIVERIA TETRANDA. (*pet-e-ve'ria te-tran'da.*)

NAT. ORDER, Phytolaceaceæ.

SYN., Petiveria mappa graveolens.

VULG., Pipi.

This undershrub is an indigene of South America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PETROLEUM. (*pe-tro' le-um.*)

SYN., Bitumen liquidem, Naptha montana, Oleum petræ, Oleum terræ, Petroleum bardadense.

VULG., Barbadoes tar, Burmese naptha, Crude coal oil, Crude rock oil, Rangoon petroleum, R. tar.

The Preparations* of this semi-liquid hydrocarbon compound are the decimal and centesimal triturations.

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* The artificial product *naphtha*, resulting from the agitation of crude petroleum with sulphuric acid and with an alkali solution, the effect of which, together with subsequent rectification, is to separate the organic acids, alkaloids, volatile oils, etc. from the more stable fixed fats, is *not* crude petroleum; naphtha, signifying *liquid bitumen* is (as a natural product) a limpid, yellowish-white substance that is found as an earth exudation in both Persia and in Sicily.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the crude petroleum. Deposit the petroleum in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the crude petroleum. Deposit the petroleum in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the oil, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PETROSELINUM. (*pet-ro-se-li'num.*)

NAT. ORDER, Umbelliferæ.

SYN., Apium petroselinum, A. hortensis, Carum petroselinum, Petrolinum sativum, P. vulgare.

VULG., Parsley.

This biennial plant is a native of Southern Europe. It is cultivated in both Europe and America.

The Preparations of the root and seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '835, and *two parts* each of the recently dried root and seeds. Run the root and seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root and seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PEUCEDANUM OFFICINALE. (*pu-sed'a-num of-fic-i-na'le*)

NAT. ORDER, Umbelliferæ.
SYN., Marthbrum sylvestre, Pinastellum, Bonus genius.
VULG., Hog's fennel, Sulphurwort.

This plant is indigenous to the South of Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PHELLANDRIUM AQUATICUM. (*fel-lan'dre-um a-quat'i-cum.*)

NAT. ORDER, Umbelliferæ.
SYN., Œnanthe phellandrium, Œ. sarmentosa, Fœniculum aquaticum, F. caballinum.
VULG., Five-leaved water dropwort, Five-leaved water hemlock, Water hemlock (?).

This biennial water plant is an indigene of both Europe, and Northern Asia.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* ot the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PHILADELPHUS CORONARIUS. (*fil-a-del'fus cor-o-na' ri-us.*)

NAT. ORDER, Saxifragaceæ.

SYN., P. floribundus, P. grandiflorus, P. inodorus, P. latifolius.

VULG., Mock orange, Syringa.

This plant is an habitat of North America.

The Preparations of the flowers of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* ot the fresh flowers. Bruise the flowers thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PHOSPHORUS. (*fos-four'us.*)

Formula.—P; 31.

This substance is prepared by treating calcined bones or bone-earth with sulphuric acid and water. The acid phosphate thus prepared, being first mixed with charcoal, is heated to redness; the resulting product is metaphosphate of calcium. Transfered to a suitable retort, the mixture is then distilled to a high degree of temperature. The phosphorus is carried over in form of vapor, and is condensed under water. The sp. gr. of phosphorus is 1.77. It is insoluble in water, very sparingly soluble in alcohol, but is quite soluble in bisulphide of carbon, chloroform, ether, and the fixed and volatile oils. *Crude phosphorus should be kept submerged in water.*

The Preparations* of phosphorus are the solution and its decimal and centesimal dilutions.

The Solution.—To prepare the solution dissolve in *ninety- nine parts* of chloroform *one part* of (white) phosphorus.

The *drug power* of this solution is equal to the second decimal or to the first centesimal *dilution.*

DILUTIONS.—To prepare the *third decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of the *solution;* the *fourth decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the third decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *second centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the *solution;* the *third centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the second centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PHYSALIS ALKEKENGI. (*fiz'a-lis al-ke-ken'ge.*)

NAT. ORDER, Solanaceæ.

SYN., Alkekenge, Solanum vesicatorium.

VULG., Common winter cherry, Strawberry tomato.

This herbaceous perennial plant is indigenous to the South of Europe.

The Preparations of the berries of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.*—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried berries. Bruise the berries *thoroughly* in an iron mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

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*OLEUM PHOSPHORATUM.—In *ninety-nine parts* of dried oil of almonds dissolve *one part* of phosphorus. Heat the oil to 450° F. to expel all moisture. Transfer the oil to a capacious bottle, dry the phosphorous and add to the oil and sufficiently heat the mixture in a water bath to melt the phosphorus; agitate until the phosphorus is all dissolved and then transfer to small glass-stopper vials and protect them from the light.

*A *tincture* from the berries of the *physalis viscosa* (an indigene of this country), may be prepared in the same manner.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

PHYSOSTIGMA. (*fiz-o-stig'ma.*)

NAT. ORDER, Leguminosa.

SYN., Esere, Faba calabarica, F. physostigmatis, Physostigma veneosum.

VULG., Calabar bean, Chop nut, Esere nut, Ordeal bean of Calabar.

This perennial creeper is indigenous to Western Africa.

The Preparations of the bean of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '835, and ***four parts*** of the calabar beans. Crush the beans in an iron mortar and run through drug mill, reducing them to a moderately coarse powder; transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The ***drug power*** of this tincture is 25 per cent; or, each minim contains the medicinal properties of ***one-fourth grain*** of the calabar bean.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***six parts*** alcohol, sp. gr. '835, ***four parts*** of tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** alcohol, sp. gr. '835, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

PHYTOLACCA. (*fi-to-lac'kah.*)

NAT. ORDER, Phytolaccaceæ.

SYN., Blitum americanum, P. americana, P. decandra, P. vulgaris, Solanum magnum virginiam, S. racemosum americanum.

VULG., American nightshade, Chongras, Coacum, Cocum, Garget, Jalap (?), Jalap cancer root, Northern jalap, Pecatacalleloe, Pigeon berry, Pocan, Poke, Skoke.

This perennial plant is indigenous to North America. It is also an habitat of the North of Africa and the South of Europe.

The Preparations* of the root of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of phytolacca.*

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* The active principle ***phytolaccin*** (gum-resin), is frequently incorporated with cocoa butter or lard forming a suppository or an ointment. Phytolaccin is soluble in water, but is insoluble in alcohol.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Chop up and disintegrate the root, run through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *eighty parts* of lard and *twenty parts* of yellow wax, add *ten parts* of the *fresh* root. Chop up and disintegrate the root, reduce to a coarse powder, *moisten* with alcohol, (sp. gr. '941), and macerate for six hours; fuse the lard and wax together, add the disintegrated root and simmer over a slow fire until all moisture is driven off; strain the ointment and stir until cold.

PICHURIM. (*pis-u'rim.*)

NAT. ORDER, Lauraceæ.

SYN., Faba pichurim, F. sassafras, Nectandra puchury major, N. puchury minor, Nuces sassafras.

VULG., Brazilian bean, Brazilian nutmeg, Para nut, Puchury, Sassafras nut.

This tree, supposed to be the *Persia pichurim*, is an habitat of South America.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PILOCARPINUM MURIATICUM. (*pil-o-car-pi'num mu-ri-at'i-cum.*)

VULG., Muriate of pilocarpin.

This alkaloidal salt is obtained from the leaves of the *pilocarpus pinnatifolius* (jaborandi).

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the muriate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the muriate. Deposit the muriate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PIMPINELLA SAXIFRAGA. (*pim-pe-nel'la sax-if'ra-ga.*)

NAT. ORDER, Umbelliferæ.

SYN., Pimpinella alba, P. hircinæ, P. nostralis, P. umbelliferæ, Tragoselinum.

VULG., Bibernell, Burnet saxifrage, Pimpinel.

This perennial plant is an indigene of Southern Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol· sp. gr. '835, *one part* of each succeeding dilution.

PINUS ABIES. (*pi'nus a'bi-es.*)

NAT. ORDER, Coniferæ.
SYN., Abies communis, A. excelsa.
VULG., Norway spruce.

This tree is indigenous to both Northern Europe and Asia.

PINUS SYLVESTRIS. (*pi'nus sil-ves'tris.*)

NAT. ORDER, Coniferæ.
VULG., Scotch fir, Scotch pine, Wild pine.

This tree is an habitat of Northern Europe.

The preparations of the leaves and young twigs of these two species of pine are the tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* leaves and twigs. Chop up and bruise the leaves and twigs thoroughly, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves and twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp gr '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PIPER NIGRUM. (*pi'per ni'grum.*)

NAT. ORDER, Piperaceæ.
SYN., Piper trioicum.
VULG., Black pepper.

This perennial climbing or creeping vine is a native of Cochin China. It is an habitat of India, and is cultivated in the East and West Indies.

The Preparations* of the dried unripe berries are the tincture, its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the dried unripe berries. Run the berries through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the dried unripe berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PISCIDIA ERYTHRINA. (*pis-cid'e-a er-e-thri'na.*)

NAT. ORDER, Leguminosæ.

VULG., Jamaica dogwood.

This tree is an habitat of the West Indies.

The Preparations of the *fresh* bark of the root of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh bark of the root. Chop up and bruise the root thoroughly, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter, and add sufficient (?) alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or. each minim contains the medicinal properties of *one-fourth grain* of the fresh bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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* PIPERIN. ($C^{17} H^{19} NO^{3}$) This substance, the alleged active principle of black pepper, is obtained by treating the dried unripe berries with alcohol (sp. gr. '835,) and the tincture, thus prepared, with an *alkaline* solution. The oleaginous matter thus saponified, being the undissolved portion is separated and subsequently treated with alcohol and left to spontaneously evaporate. The resulting four-sided prismatic crystals are of a pale lemon color.

PLANTAGO MAJOR. (*plan-ta'go ma'jor.*)

NAT. ORDER, Plantaginaceæ.

VULG., Greater plantain, Plantain, Wabran leaves, Way bread.

This perennial herb is an habitat of both Europe and America.

The Preparations* of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the *fresh* plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have a specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol, and a sufficient quantity more alcohol, (sp. gr. '941,) that the menstruum shall equal *sixteen parts*. Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PLATINA. (*plat'e-na.*)

SYN., Platinum, P. metallicum.

Formula.—Pt; 198.

This metal occurring in a free state, and also in combination with other rare metals, is found in California and Mexico, and also in South America. *Spongy platinum* is the metal in a finely divided form; it is obtained by decomposing (by heat) the recently prepared double chloride (platinum and ammonium).

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of spongy platinum. Deposit the metal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

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* The preparations of the several indigenous species, *plantago cordata* (heart-leaved plantain), *P. lanceolata* (rib-grass), *P. virginica* (ribwort or white plantain), may each and severally be prepared in accordance with the formula given for the preparations of the plantago major.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of spongy platinum. Deposit the platina in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLATINUM MURIATICUM. (*plat'e-num mu-ri-at'i-cum.*)

SYN., Chloras platinicus, Platina chlorata, Platini chloridum, Platinic chloride, Platinum bichloratum.

VULG., Chloride of platinum, Muriate of platinum, Perchloride of platinum.

Formula.—Pt Cl^4. 5 H^2 O; 430.

This salt is prepared by dissolving platinum in strong nitro-muriatic acid (aqua regia), evaporating the solution *nearly* to dryness and then treating it with strong hydrochloric acid; the subsequent solution is evaporated to *dryness*. The salt is readily soluble in alcohol and in water.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the muriate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the muriate. Deposit the muriate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk

sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLUMBAGO LITTORALIS. (*plum-ba'go lit-o-ral'is.*)

NAT. ORDER, Plumbaginaceæ.

VULG., Picao de praia.

This herbaceous creeper is a native of South America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

PLUMBUM. (*plum'bum.*)

SYN., Plumbum metallicum.

VULG., Lead.

Formula.—Pb; 207.

This metal is obtained by simply roasting the native sulphide. Or, for pharmaceutical purposes, by the following simple process: Into a solution of *acetate* of lead place rods, or plates of zinc. The reduction results in the formation of an adherent dark gray mass, which being removed and subsequently washed is finally dried between folds of blotting paper.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the metal. Deposit the metal in a porcelain mortar, and add three parts of milk sugar and steadily triturate for twenty minutes; add three parts more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the metal. Deposit the metal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLUMBUM ACETICUM. (*plum'bum a-cet'i-cum.*)

SYN., Acetas plumbicus, Plumbi acetas, Saccharum saturni.
VULG., Acetate of lead, Sugar of lead.

Formula.—$Pb (C^2 H^3 O^2) 3 H^2 O$; 379.

This salt is prepared by treating finely powdered oxide of lead with diluted acetic acid. The oxide being made soluble by the aid of heat, the solution (acetate of lead) is then filtered, evaporated, and set aside that crystallization may occur. The colorless prismatic scales are soluble in 1.9 parts of water and in 8 parts of alcohol (15° C.) 59° F. The salt being efflorescent and attracting carbonic acid from the air, is frequently found to be associated with the carbonate. The turbidity of an aqueous solution of the acetate, if due to the presence of the carbonate, will be cleared up on the addition of a few drops of acetic acid.

Tests.—An aqueous solution of acetate of lead yields a *black precipitate* (sulphide) when treated with hydrosulphuric acid, it also yields a *lemon-yellow colored precipitate* (iodide) when treated with a solution of iodide of potassium. The precipitation being complete the solution should leave no residue on evaporation, thus showing the absence of both metallic zinc and the alkalies.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the acetate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration, adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the acetate. Deposit the acetate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLUMBUM CARBONICUM. *(plum'bum car-bon'i-cum.)*

SYN., Carbonas plumbicus, Cerusa, Magisterium plumbi, Plumbi carbonas, Plumbic carbonate.

VULG., Carbonate of lead, White lead.

Formula.—$(Pb\,CO^3)\,Pb\,(HO)^2$; 773.5.

This heavy opaque white powder is obtained in several ways, under different processes; by direct oxidation of the metal in the presence of carbonic acid gas or by subjecting the solution of the basic acetate to the action of carbonic acid gas. Carbonate of lead is insoluble in alcohol, also in water, but is wholly soluble in both diluted acetic and nitric acid.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the carbonate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the carbonate. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLUMBUM CHROMICUM. (*plum'bum kro'mi-cum.*)

VULG., Chromate of lead, Chrome yellow, Lead chromate, Lemon chrome.

Formula.—Pb Cr O^4; 323.5.

This salt is prepared by adding a solution of chromate of potassium to a solution of a lead salt (acetate). The chromate of lead is precipitated in the form of a lemon-yellow colored powder

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chromate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the chromate. Deposit the chromate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLUMBUM IODATUM. (*plum'bum i-o-dat'um.*)

SYN., Ioduretum plumbicum, Plumbi iodidum, Plumbic iodide.

VULG., Iodide of lead.

Formula.—Pb I^2; 461.

This salt is prepared by dissolving nitrate of lead, with the aid of heat, in a convenient quantity of distilled water and adding to it a solution of iodide of potassium. Iodide of lead is precipitated in the form of a golden-yellow colored powder; or, when crystallized from a boiling solution the crystals are of a still deeper color and in the form of laminæ or scales. In a moist atmosphere iodide of lead is decomposed, forming a binoxide and a carbonate also yielding free iodine.

The Preparations of this salt are the decimal and centesimal triturations. Besides these, there is an *ointment of iodide of lead.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar, and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decmal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *ninety parts* of benzoinated lard add *ten parts* of iodide of lead. Triturate the iodide to a *fine* powder, and adding the lard in small quantities rub together until thoroughly incorporated.

PLUMBUM MURIATICUM. (*plum'bum mu-ri-at'i-cum.*)

SYN., Plumbic chloride.

VULG., Chloride of lead, Muriate of lead.

Formula.—Pb Cl^2; 278.

This salt is prepared by dissolving acetate of lead in a convenient quantity of distilled water adding to it hydrochloric acid; the chloride of lead is precipitated in the form of a white powder, which being boiled in water is re-dissolved, and, on again cooling, is deposited in small needle-like crystals.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chloride. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the chloride. Deposit the chloride in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLUMBUM NITRICUM. (*plum'bum ni'tri-cum.*)

SYN., Nitras plumbicus, Plumbi nitras, Plumbic nitrate.

VULG., Nitrate of lead.

Formula.—$Pb(NO^3)^2$; 330.5.

This salt is prepared by dissolving litharge in nitric acid The solution is filtered and afterward evaporated. Being evaporated to dryness to remove any excess of acid, it is again dissolved in boiling water and is set aside to crystallize. The crystals are octahedral, are transparent when recently formed, and are permanent in the air, becoming, however, opaque. They are soluble in 2 parts of water at (15° C.) 59° F., and are slightly soluble in alcohol.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the nitrate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the nitrate. Deposit the nitrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PLUMBUM OXYDATUM RUBRUM. (*plum'bum ox-i-da'tum ru'brum.*)

SYN., Minium rubrum, Miltus.

VULG., Red lead, Red oxide of lead.

Formula.—Pb^3O^4; 685.

This substance is prepared from litharge (protoxide of lead) through its exposure for a long period of time to a current of atmospheric air while at red heat. The heavy, brilliant red, scaley powder is soluble in nitric acid and in solution may be tested with the proper reagent for the more common adulterants (copper, iron, and bole).

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* **trituration it requires** to *nine parts* of milk sugar *one part* of red lead. **Deposit** the lead in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of red lead. Deposit the lead in a porcelain mortar, and divide the milk sugar into three equal portions, add one portion, thirty-three parts, to the lead, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

PODOPHYLLUM. (*pod'o-fil-lum.*)

NAT. ORDER, Berberidaceæ.

SYN., Aconitifolius humilis, Anapodophyllum canadense, A. peltatum, Podophyllum callicarpum, P. montanum, P. peltatum.

VULG., Duck's foot, Ground lemons, Indian apple, Ipecacuanha (?), Mandrake, May apple, Pecan lemons, Raccoon berry, Wild lemon, Wild mandrake, Yellow berry.

This herbaceous perennial plant is indigenous to all parts of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there are the decimal and centesimal triturations of the active principle, *podophyllin.**

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* RESINA PODOPHYLLI.—This resinous substance is obtained by preparing first, a saturated tincture of the root, and then, having distilled off the alcohol, treating the residue with water. The resin which is thus precipitated is thoroughly washed with water and is carefully dried.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the podophyllin. Deposit the resin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the podophyllin. Deposit the podophyllin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

POLEMONIUM REPTANS. (*pole-mo'ni-um rep'tans.*)

NAT. ORDER, Polemoniaceæ.

VULG., Blue bells, False Jacob's ladder, Greek valerian (?), Sweat-root.

This plant is indigenous to the Northern and Eastern parts of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

POLYGALA RUBELLA. (*po-lig'a-la ru-bel'la.*)

NAT. ORDER, Polygalaceæ.
SYN., Polygala amara (?).
VULG., Bitter milkwort, Bitter polygala.

This plant is indigenous to the United States of America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

POLYGONUM AMPHIBIUM. (*po-lig'o-num am-fib'i-um.*)

NAT. ORDER, Polygonaceæ.
SYN., Polygonum coccineum, P. fluitans.
VULG., Ladies' thumb, Spotted knotwood, Water persicarea.

POLYGONUM BISTORTA. (*po-lig'o-num bis-tor'ta.*)

NAT. ORDER, Polyganaceæ.
SYN., Bistorta, Calubrina.
VULG., Officinal bistort, Great bistort, Snakeweed.

POLYGONUM HYDROPIPER. (*po-lig'o-num hy-dro'pi-per.*)

NAT. ORDER, Polygonaceæ.

SYN., Hydropiper, Persicaria urens, Mercurius terrestes.

VULG., Poor man's pepper, Biting arsmart, Smartweed, Lake weed, Water pepper.

POLYGONUM PUNCTATUM. (*po-lig'o-num punc-ta'tum.*)

NAT. ORDER, Polygonaceæ.

SYN., Polygonum acre, P. hydropiperoides.

VULG., America water pepper, Biting knob, Biting persicaria, Knotweed, Smartweed, Water pepper, Wild smartweed.

These several species of polygônum are habitats of North America.

The Preparations of the leaves of these plants are their respective tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

POLYMNIA UVEDALIA. (*po-lim'ne-a u-ve-da'lia.*)

NAT. ORDER, Compositæ.

VULG., Bearsfoot.

This plant is an habitat of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. ‘835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ‘835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ‘835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. ‘835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ‘835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ‘835, *one part* of each succeeding dilution.

POLYPODIUM VULGARE. (*pol-e-po'di-um vul-ga're.*)

NAT. ORDER, Polypodaceæ.

VULG., Brake root, Common polypody, Female Fern, Fern root, Rock brake, Rock polypod.

This herbaceous perennial plant is an habitat of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ‘941, and *four parts* of the recently gathered plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. ‘941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ‘941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. ‘835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. ‘941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. ‘941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. ‘835, *one part* of each succeeding dilution.

POLYPORUS PINICOLA. (*pol-e-po'rus pi-ne-co'la.*)

NAT. ORDER, Fungi.

VULG., Pine agaric.

The Preparations of this fungi are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. ‘835, and *four parts* of the pine agaric. Chop up and disintegrate the fungi, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the pine agaric.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the ***second decimal*** **dilution, to** ***nine parts*** of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

POLYTRICHUM JUNIPERINUM. (*po-lit're-kum ju-nip-e-ri'num.*)

NAT. ORDER, Musci.

VULG., Hair-cap moss, Robin's rye.

This species of moss is indigenous to the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the *recently* gathered moss. Bruise the moss thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered moss.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

POPULUS CANDICANS. (*pop'u-lus can'di-cans.*)

NAT. ORDER, Salicaceæ.

VULG., Balm of Gilead (?), Heart-leaved popular.

POPULUS TREMULOIDES. (*pop'u-lus trem-u-loy'des.*)

NAT. ORDER, Salicaceæ.

VULG., American aspen, American poplar, Aspen, Aspen poplar, Quaking aspen, Quiver leaf, Trembling poplar, White poplar.

These two species* of poplars are both habitats of North America.

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* The tonic properties of the bark are supposed to be due to two crystallizable bodies termed, respectively, *populin* and *salicin.*

The Preparations of the inner bark and leaves of these respective trees are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *three parts* each of the recently dried inner bark and leaves. Run the bark and leaves through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with a 2 per cent (hot) solution of acetic acid. Digest for two hours and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried inner bark and leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

POTENTILLA CANADENSIS. (*po-ten'til-la can-a-den'sis.*)

NAT. ORDER, Rosaceæ.
SYN., Potentilla pumila, P. simplex, P. sarmentosa.
VULG., Cinque-foil, Five finger.

This perennial plant is indigenous to North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PROPYLAMINUM. (*prop-i-lay'me-num.*)

SYN., Propylamin, Trimethylamina.

Formula.—$(CH^3)^3 N$; 59.

This substance, the constituent of the leaves and flowers of several plants, also found in cod-liver oil, bone oil and guano, is obtained from herring-brine. Mixed with or made alkaline by the presence of lime, it is distilled and the distilate is first neutralized with hydrochloric acid, and being evaporated to dryness the residual salt is then treated with alcohol, again evaporated and again dissolved in water to which lime or potassium has been added, and from which the vapors of the alkaloid are now finally distilled. Propylaminum is a colorless, thin, strongly alkaline liquid that is readily soluble in alcohol and in water.

The Preparations* of this substance are the centesimal dilutions.

DILUTIONS.—To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the propylaminum; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PRUNELLA VULGARIS. (*pru-nel'la vul-ga'ris.*)

NAT. ORDER, Labiatæ.

SYN., Brunella, Consolida minor, Symphytum minus.

VULG., Bugle, Common self-heal, Heal-all, Prunelle.

This herbaceous perennial plant is an habitat of both Europe and America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. 941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the reeently dried leaves.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

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* A popular method of administering this remedy is as follows: To six ounces of sweetened spearmint water add twenty-five drops of propylaminum, give one tablespoonful of the mixture every two or three hours.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PRUNUS PADUS. (*pru'nus pa'dus.*)

NAT. ORDER, Rosaceæ.

SYN., Cerasus padus, C. racemosus, Padus avium, Prunus racemosa, P. vulgaris.

VULG., Bird cherry, Wild cluster, Hag berry, Hackberry.

This tree is an habitat of Europe, Asia, and Western Africa.

The Preparations of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered bark of the twigs. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered bark of the twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture: the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PRUNUS SPINOSA. (*pru'nus spi-no'sa.*)

NAT. ORDER, Rosaceæ.

SYN., Acacia germanica, A. nostrates, Prunus communis, P. institia.

VULG., Blackthorn, Sloe tree.

This tree, although an indigene of Europe, is an habitat of the United States of America.

The Preparations of the (flower) *buds* of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* flower buds. Bruise the buds in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh flower buds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PTELIA TRIFOLIATA. (*p*) *te'lea tri-fo-li-a'ta.*)

NAT. ORDER, Rutaceæ.

SYN., Amyris elemefera, Petelia viticifolia.

VULG., Hop tree, Shrubby trefoil, Swamp dogwood, Wafer ash, Wing seed.

This shrub is indigenous to the United States of America.

The Preparations of the bark of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PULSATILLA. (*pul-sa-til'la.*) •

NAT. ORDER, Ranunculaceæ.

SYN., Anemone pratensis, Herbi venti, Pulsatilla nigricans, P. pratensis, P. vulgaris.

VULG., Meadow anemone, Pasque flower, Wind flower.

This perennial plant is indigenous to Central and Northern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PULSATILLA NUTTALLIANA. (*pul-sa-til'la nut-tal-li-a'na.*)

NAT. ORDER, Ranunculaceæ.

SYN., Anemone flavescens, A. ludoriciana, A. nuttalliana, A. patens, Var. nuttalliana, A. pratensis, Clematis hirsutissima, Pulsatilla patens.

VULG., American pulsatilla, Pasque flower, Wind flower, Wood anemone.

This plant is indigenous to the North Western part of the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PYCNANTHEMUM LINIFOLIUM. (*pic-nan-the'mum lin-i-fo'li-um.*)

NAT. ORDER, Labiatæ.
VULG., Prairie hyssop, Virginia thyme.

This plant is indigenous to the Southern, and to the South Western States of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr '835, and *four parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four part* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol; sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PYRETHRUM PARTHENIUM. (*pir'e-thrum par-the-ne'um.*)

NAT. ORDER, Compositæ.
SYN., Chrysanthemum parthenium.
VULG., Chrysanthemum, Featherfew, Feverfew, Spanish pellitory.

This herbaceous perennial plant, although indigenous to Europe, is an habitat of the United States of America. It is cultivated in the gardens in both countries.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the *fresh* plant. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PYROLA ROTUNDIFOLIA. (*py-ro'la ro-tun-di-fo'li-a.*)

NAT. ORDER, Ericaceæ.

VULG., Canker lettuce, False Wintergreen, Pear-leaf wintergreen, Round-leaved pyrola, Shin leaf.

This evergreen perennial herb is an habitat of the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently gathered plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

PYRUS MALUS. (*pi'rus ma'lus.*)

NAT. ORDER, Rosaceæ.

VULG., Apple tree.

This tree is indigenous to Europe, although naturalized in this country.

The Preparations* of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh bark from the young twigs. Chop up the bark and bruise it thoroughly in a Wedgewood mortar, transfer it to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

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* *Phlorizin* or phloridzin ($C^{21} H^{24} O^{10}$) the supposed active principle of the apple tree bark crystallizes in fine, silky prisms; it is soluble in alcohol but is only slightly soluble in water (15° C.) 59° F.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh bark of the young twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four part* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol. sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

QUASSIA AMARA. (*kwosh'e-a a-ma'ra.*)

NAT. ORDER, Simarubaceæ.

SYN., Picrænia excelsa, Picrasma excelsa, Q. excelsa, Q. lignum, Q. polygama, Simaruba excelsa, S. quassia.

VULG., Bitter ash, Bitter wood, Jamaica wood, Quassia, Quassia wood.

This small shrub* is a native of Surinam. It is also alleged to be an habitat of the West India Islands.

The Preparations of the *wood* of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, *two parts* of the dried wood (chips). Run the quassia chips through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the chips.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* of alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

QUERCUS ALBA. (*quer'cus al'ba.*

NAT. ORDER, Cupuliferæ.

VULG.. White oak.

QUERCUS TINCTORIA. (*quer'cus tinc-to'ria.*)

NAT. ORDER, Cupuliferæ.

VULG., Black oak.

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* Commercially, this shrub *quassia amara* is no longer known. The quassia of commerce is the wood of the *quassia excelsa.*

These two of the many species of this genus are **habitats** of the United States of America.

The Preparations * of the inner bark of the smaller branches of these trees are their tincture and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried inner bark of the young branches. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. .835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

QUILLAIA SAPONARIA. (*quil-la'ya sap-o-na'ria.*)

NAT. ORDER, Rosaceæ.

VULG., Soap bark.

This small evergreen shrub is indigenous to South America.

The Preparations of the inner bark of this shrub are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered inner bark. Deposit the bark in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

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* An alcoholic tincture of the bark of the black oak, when freed from tannin and evaporated and further treated with water yields a glucoside termed *quercitrin.* Quercitrin ($C^{33} H^{30} O^{17}$) is a bitter, bright yellow, microscopic salt. It is slightly soluble in water (15° C.) 59° F., and is freely soluble in alcohol and in alkaline solutions.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered inner bark. Deposit the bark in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the bark, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes, and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

RANUNCULUS ACRIS. (*ra-nun'ku-lus ac'ris.*)

NAT. ORDER, Ranunculaceæ.

SYN., R. californicus, R. canus, R. delphinifolius, R. dissectus, R. fascicularis.

VULG., Bachelor's buttons, Butter-cup, Crowfoot butter-cup, Meadow crowfoot, Yellow weed, Upright crowfoot.

RANUNCULUS BULBOSUS. (*ra-nun'ku-lus bul-bo'sus.*)

NAT. ORDER, Ranunculaceæ.

SYN., R. tuberosus.

VULG., Bulbous crowfoot, Butter-cup, Crowfoot.

RANUNCULUS REPENS. (*ra-nun'ku-lus re'pens.*)

NAT. ORDER, Ranunculaceæ.

SYN., R. clintonii, R. intermedius, R. lanuginosus, R. prostratus, R. tomentosus.

VULG., Common crowfoot, Creeping crowfoot, Creeping butter-cup.

RANUNCULUS SCELERATUS. (*ra-nun'ku-lus sel-e-ra'tus.*)

NAT. ORDER, Ranunculaceæ.

SYN., Herba sardoa, Ranunculus palustris.

VULG., Celery-leaved butter-cup, Celery-leaved crowfoot, Marsh crow. foot.

These several species of this genus are all habitats of both Europe and America.

The Preparations of these several plants are their tincture and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, and *six parts* of the *fresh* (whole) plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and macerate for fourteen days; express and filter, and add enough more alcohol (sp. gr. '941), that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

RHAMNUS. (*ram'nus.*)

NAT. ORDER, Rhamnaceæ.

SYN., Frangula caroliniana, F. fragilis, Sarcomphalus carolinianus.

VULG., Buckthorn, Purging buckthorn.

This shrub is an indigene of Europe, and is also an habitat of the United States of America.

The Preparations of the berries of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '941, and *six parts* of the fresh *berries* Bruise the berries thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have a specific gravity of '941; transfer the bruised berries to a suitable vessel and add the expressed juice and alcohol and a macerate for fourteen days; express and filter, and add enough more alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

RHEUM. (*re'um.*)

NAT. ORDER, Polygonaceæ.

SYN., Rhabarbarum, Rheum compactum, R. emodi, R. muscoviticum, R. officinale, R. palmatum, R. rhaponticum, R. sussicum, R. undulatum.

VULG., Indian (China) rhubarb, Rhubarb.

This species of rheum is an habitat of China and Chinese Tartary.

The Preparations of this root are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of dried Indian rhubarb root. Bruise the root thoroughly in an iron mortar, run through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the dried Indian rhubarb.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered rhubarb. Deposit the powdered root in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered rhubarb. Deposit the powdered root in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the root, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

RHODIUM. (*ro'de-um.*)

Formula.—Rh; 104.

This metallic substance is obtained as one of the platinum residues, from a solution from which platinum has been separated.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of rhodium. Deposit the metal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of rhodium. Deposit the rhodium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes: and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration. adding the vehicle and proceeding as directed for the *first centesimal* trituration.

RHODODENDRON. (*ro-do-den' dron.*)

NAT. ORDER, Ericaceæ.
SYN., Rhododendron chrysanthemum, R. officinale.
VULG., Dwarf rosebay, Yellow-flowered rhododendron.

This evergreen shrub is an indigene of Siberia.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot water (112° F.), and when cool add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

RHUS GLABRA. (*rhus gla'bra.*)

NAT. ORDER, Anacardiaceæ.

SYN., Rhus carolinense, R. elegans.

VULG., Common sumach, Pennsylvania sumach, Smooth sumach, Upland sumach.

This indigenous shrub is an habitat of all parts of the United States of America.

The Preparations of the fresh bark of this shrub are the tincture, its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh bark. Bruise the bark thoroughly in a brass mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

RHUS RADICANS. (*russ rad'i-cans.*)

NAT. ORDER, Anacardiaceæ.

VULG., Mercury vine, Poison ivy, Poison vine, Three-leaved ivy.

RHUS TOXICODENDRON. (*russ tox-i-co-den'dron.*)

NAT. ORDER, Anacardiaceæ.

SYN., Rhus humile, R. pubescens, R. radicans, R. toxicarium, R. verrucosa, Vitis canadensis.

VULG., Poison ash, Poison oak.

RHUS VENENATA. (*russ ven-e-na'ta.*)

NAT. ORDER, Anacardiaceæ.

SYN., R. vernicifera, R. vernix.

VULG., Dogwood, Poison ash, Poison elder, Poison sumach, Poisonwood, Swamp sumach, Varnish sumach, Varnish,tree.

These three species of rhus are all indigenous to the United States of America.

The Preparations of the leaves of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr.'835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ROBINIA. (*ro-bin'e-a.*)

NAT. ORDER, Leguminosæ.

SYN., Robinia fragilis, R. pseudo-acacia, Pseudo-acaciæ odorata.

VULG., Black locust, False acacia, False locust, Locust, Yellow locust.

This tree is indigenous to America and is also an habitat of Europe.

The Preparations of the bark of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the young twigs. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark of the young twigs.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ROSA CANINA. (*ro'sa ka-ni'na.*)

NAT. ORDER, Rosaceæ.

SYN., Cynos bata, Rosa collina, R. corilifolia, R. dumetorum, R. lutetiana.

VULG., Dog rose, Hips, Hip tree, Wild brier, Wild rose.

ROSA CENTIFOLIA. (*ro'sa cen-te-fo'li-a.*)

NAT. ORDER, Rosaceæ.

SYN., Rosa muscosa, R. provincialis.

VULG., Cabbage rose, Damask rose (?), Hundred-leaved rose, Moss rose, Pale rose.

The first of these two species of this genus is an indigene of Europe; the second, of Western Asia.

The Preparations of the (flowers) petals of these shrubs are their tincture and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr '835, and *six parts* of the fresh flowers. Bruise the flowers thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

ROSMARINUS. (*ros-ma-ri'nus.*)

NAT. ORDER, Labiatæ.

SYN., Herba anthos, Libanotis, Rosmarinus hortensis, R. officinalis.

VULG., Rosmary, Rosmarinus, Sea-dew.

This evergreen shrub is an habitat of the Mediteranean country. It is extensively cultivated in the gardens of Europe, also to some extent in America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the (whole) fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol. sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

RUDBECKIA HIRTA. (*rud-beck'i-a hir'ta.*)

NAT. ORDER, Compositæ.

VULG., Cone flower, Great hairy rudbeckia.

This plant is an habitat of the southern parts of the Northern United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried herb. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

RUMEX. (*ru'mex.*)

NAT. ORDER, Polygonaceæ.

SYN., Rumex crispus.

VULG., Curled dock, Garden patience, Narrow dock, Sour dock, Yellow dock.

This plant is indigenous to Europe, and is also an habitat of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days, express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

RUTA. (*ru'ta.*)

NAT. ORDER, Rutaceæ.

SYN., Ruta graveolens, R. hortensis, R. latifolia, R. montana, R. sativa, R. vulgaris.

VULG., Bitter herb, Countryman's treacle, Garden rue, Rue.

This perennial plant is indigenous to Southern Europe, and is cultivated in the gardens of this country.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the *fresh* leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SABADILLA. (*sab-a-dil'la.*)

NAT. ORDER, Melanthaceæ.

SYN., Asagræa officinalis, Cebadilla, Helonias officinalis, Hordeum causticum, Melanthium sabadilla, S. officinarum, Schœnocaulon officinale, Veratrum officinale, V. sabadilla.

VULG., Cevadilla seeds, Indian caustic barley.

This bulbous plant is indigenous to Mexico, also to Guatemala and Venezuela.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol. sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

SABBATIA. (*sab-ba'she-a.*)

NAT. ORDER, Gentianaceæ.

SYN., Chironia angularis.

VULG., American centaury, Angular-stalked sabbatia, Angular-stalked star flower, Bitter bloom, Bitter clover, Red century, Rose pink, Wild succory.

This biennial herbaceous plant, growing throughout the Middle and Southern States, is indigenous to the United States of America.

The Preparations of this plant are tne tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh herb. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SABINA. (*sa-bi'na.*)

NAT. ORDER, Coniferæ.

SYN., Juniperus fœtida, J. lycia, J. prostrata, J. sabina, Sabina officinalis, S. sterilis, S. vulgaris.

VULG., Savin, Savine.

This evergreen shrub is an indigene of Southern Europe.

The Preparations of the young leaves and stems of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried leaves and stems. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves and stems.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SALIX ALBA. (*sa'lix al'ba.*)

NAT. ORDER, Salicaceæ.

VULG., Golden willow, White willow, Willow,

SALIX PURPUREA. (*sa'lix pur'pu-rea.*)

NAT. ORDER, Salicaceæ.

VULG., Bitter purple willow, Red or purple willow.

These species of this extensive genus are indigenous to the northern temperate zone of both Europe and America.

The Preparations of the bark of these trees are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried bark from the young branches. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark of the young branches.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SALVIA. (*sal've-a.*)

NAT. ORDER, Labiatæ.

VULG., Garden sage, Sage.

This perennial plant is a native of Southern Europe. It is abundantly cultivated in the gardens of both Europe and America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the fresh leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or each minim contains the medicinal properties of *three-eighths grain* of the fresh leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SAMBUCUS CANADENSIS. (*sam-bu'cus can-a-den'sis.*)

NAT. ORDER, Caprifoliaceæ.

VULG., American elder, Canadian elder, Black elder (?), Elder, Sweet elder.

This undershrub is indigenous to the United States of America.

The Preparations of the flowers and leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the fresh flowers and *two parts* of the fresh leaves. Bruise the flowers and leaves thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol, and enough more alcohol (sp. gr. '941) that the menstruum shall equal *sixteen parts*. Macerate for fourteen days; express and filter

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh flowers and leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SAMBUCUS NIGRA. (*sam-bu'cus ni'gra.*)

NAT. ORDER, Caprifoliaceæ.

SYN., Sambucus acinis albis, S. laciniatis foliis, S. maderensis.

VULG., Black (berried) European elder, Bore tree, Common elder.

This small tree is indigenous to Europe.

The Preparations of the ~~*inner* bark~~ of this tree are the tincture and its decimal and centesimal dilutions.

Flower

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried *inner* bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried inner bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SANGUINARIA. (*san-gwy-na'ri-a.*)

NAT. ORDER, Papareraceæ.

SYN., Sanguinaria acaulis, S. canadensis, S. grandiflora, S. vernalis,

VULG., Blood root, Indian paint, Pauson, Puccoon, Red puccoon. Red root, Tetterwort, Tumeric(?).

This perennial plant is indigenous to North America.

The Preparations* of the root of this plant are the tincture and its decimal and centesimal dilutions and the decimal and centesimal triturations.

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* The decimal and centesimal triturations of the *nitrate of* sanguinarina (a nitrate of the alkaloidal principle, *sanguinarine* $C^{29} H^{17} NO^{4}$) may also be prepared.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp gr '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent, or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp gr. '835, *one part* of the first centesimal dilution

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the powdered root. Deposit the root in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes, then add balance of milk sugar and triturate for twenty-five minutes

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the powdered root. Deposit the root in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the root, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes, and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration, adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SANTONINUM. (*san-to-ne'num.*)

SYN., Santonin, Santoninic acid.

VULG., Santonin, Santonine.

Formula.—$C^{15} H^{18} O^{3}$; 246.

This neutral substance is obtained by boiling the unexpanded flower-heads of santonica (artemisia cina) with milk of lime. Santonate of calcium being thus formed is decomposed on the addition of hydrochloric acid, which being further treated with ammonia to separate the resin, yields on the addition of alcohol a solution from which is deposited crystals of santonin. Santonin is soluble in about forty parts of alcohol (15° C.) 59° F.; it is also soluble in solutions of the alkalies.

The Preparations of santonin are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of santonin. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of santonin. Deposit the santonin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SAPONARIA OFFICINALIS. (*sa-po-na're-a of-fic-e-na'lis.*)

NAT. ORDER, Caryophyllaceæ.
VULG., Bouncing bet, Soapwort, Web weed.

This herbaceous perennial plant is an habitat of both Europe and America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol. sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941. *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SARRACENIA PURPUREA. (*sar-ra-ce'ne-a pur-pu're-a.*)

NAT. ORDER, Sarraceniaceæ.

SYN., Sarazina gibbosa, Sarracenia gronovii, S. heterophylla, S. leucophylla.

VULG., Eve's cup, Fly trap, Huntman's cup, Pitcher plant, Side-saddle flower.

This herbaceous plant is indigenous to North America.

The Preparations of the fresh plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol sp. gr. '835, and *six parts* of the fresh whole plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate fourteen days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. ,941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SARSAPARILLA. (*sar-sa-pa-ril'la.*)

NAT. ORDER, Smilaceæ.

SYN., Sarza, Smilax medica, S. officinalis, S. peruviana, S. sarsaparilla (?), S. syphilitica.

VULG., Wild liquoric.

This drug is probably one of the several species indigenous to South America. The variety most commonly used in the United States is known as *Honduras sarsaparilla.*

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Chop up the root and run it through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with a 10 per cent (*hot*) solution of glycerin; digest for ten hours; firmly pack in a conical percolator and add the menstruum, from time to time, until the percolate shall measure fourteen parts. Add sufficient quantity of water to force the remaining menstruum downward that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SASSAFRAS. (*sas'sa-fras.*)

NAT. ORDER, Lauraceæ.

SYN., Laurus sassafras, Sassafras officinale.

VULG., Sassafras bark.

This tree is indigenous to the United States of America.

The Preparations of the bark of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried bark of the root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture, the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SAURURUS CERNUUS. (*saw-ru'rus ser'nus.*)

NAT. ORDER, Saururaceæ.

VULG., Breast weed, Lizard's tail.

This exogenous, herbaceous plant is a native of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *four parts* of the fresh root. Chop up and thoroughly disintegrate the root, transfer to a Wedgewood mortar, bruise and express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised root to a suitable vessel and add the expressed juice and alcohol and enough more alcohol (sp. gr. '941), that the menstruum shall measure *sixteen parts*. Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SCOPARIUS. (*sco-pa'ri-us.*)

NAT. ORDER, Leguminosæ.

SYN., Cytisus scoparius, Sarothamnus scoparius.

VULG., Broom, Broom tops.

This plant, although a native of Europe, is abundantly cultivated in America.

The Preparations of the fresh tops in seed, are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the fresh tops. Chop up the tops and bruise thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh tops.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SCROPHULARIA NODOSA. (*skrof-u-la'ria no-do'sa.*)

NAT. ORDER, Scrophulariaceæ.

SYN., Galiopsis, Ocimastruun, Scrophularia fœtida, S. lanceolata, S. majoris, S. vulgaris.

VULG., Carpenter's square, Figwort, Heal-all, Knotty-rooted figwort, Scrofula plant, Square-stalk.

This perennial herb is an habitat of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SCUTELLARIA. (*sku-tel-la're-a.*)

NAT. ORDER, Labiatæ.

SYN., Scutellaria lateriflora.

VULG., Blue pimpernel, Blue scull-cap, Hoodwort, Hooded willow herb, Mad-dog scull-cap, Scull-cap, Woodwort.

This perennial plant is indigenous to the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried (whole) plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SECALE CORNUTUM. (*se-ca'le cor-nut'um.*)

NAT. ORDER, Fungi.

SYN., Acinula clavus, Clavaria clavus, Clavi siliginis, Claviceps purpurea, Clavus secalinum, Ergota, Sclerotium clavus, Secale clavatum, S. corniculatum, S. luxurians, S. maturnum, S. temulentum, S. turgidum, Secalis mater, Spermoedia clavus.

VULG., Cockspur, Cockspur rye, Ergot of rye, Horned rye, Spurred rye.

This perverted or fungoid growth of *secale cereale* is to be carefully kept in a cool, *dry* place. Its virtues are impaired by age.

The Preparations of ergot are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fifteen parts* of alcohol, sp. gr. '920, *one part* hydrochloric acid (diluted, U. S.) and *six parts* of the recently dried ergot. Run the ergot through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and *moisten* with the acid and a sufficient quantity of the menstruum; digest for six hours, firmly pack in a conical percolator and add the alcohol, from time to time, until the percolate measures twelve parts; then add sufficient water to force the remaining menstruum downward. Add sufficient more alcohol, sp. gr. '920, that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried ergot.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '920, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '920, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SEDUM ACRE. (*se'dum a'kre.*)

NAT. ORDER, Crassulaceæ.

SYN., Sempervivum minoris, S. vermicularis.

VULG., Biting stonecrop, Mossy stonecrop, Small house leek.

SEDUM TELEPHIUM. (*se'dum tel-e'fi-um.*)

NAT. ORDER, Crassulaceæ.

SYN., Crassula major, Telephium.

VULG., Common orpine, Garden orpine, Live-forever.

These small succulent plants, both perennials, are indigenes of Europe. They are also habitats of North America.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and sufficient alcohol (sp. gr. '835) that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SELENIUM. (*se-le'ne-um.*)

Formula.—Se; 79.

This rare non-metallic elementary body, which greatly resembles sulphur in its chemical relations is frequently found associated with that element; in combination with lead, selenium, in form of selenious acid, replaces the sulphur forming the selenide of lead.

The Preparations* of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the selenium. Deposit the selenium in a porcelain mortar, and add three parts of milk sugar and steadily triturate for twenty minutes; add three parts more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

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* SELENIATE OF SODA.—The decimal and centesimal triturations of this salt, a combination of nitrate of soda and selenious acid, may also be prepared. The salt is freely soluble in water.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the selenium. Deposit the selenium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal (?) and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SEMPERVIVUM TECTORUM. (*sem-per-vi'vum teck-to'rum.*)

NAT. ORDER, Crassulaceæ.

SYN., Sempervivum majus.

VULG., Common house leek, Cyphel, Jupiter's beard.

This perennial succulent plant, although indigenous to Europe, is more or less cultivated in the gardens of the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate for fourteen days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourth parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SENECIO AUREUS. (*se-ne'she-o aw're-us.*)

NAT. ORDER, Compositæ.

SYN., Senecio gracilis.

VULG., False valerian, Golden senecio, Golden ragwort, Life root, Ragwort, Squaw weed, Uncum.

This perennial plant is an habitat of the United States of North America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the fresh plant. Chop up the plant and bruise thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have a specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol that the menstruum shall equal *sixteen parts*. **Macerate** for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth part* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SENEGA. (*sen'e-ga.*)

NAT. ORDER, Polygalaceæ.

SYN., Polygala senega, P. virginiana, Seneca.

VULG., Rattlesnake milkwort, Rattlesnake root, Seneca snakeroot, Snakeroot.

This perennial plant is an indigene of the Southern part of the United States of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SENNA. (*sen'na.*)

NAT. ORDER, Legumiosæ.

SYN., Cassia æthiopica, C. acutifolia, C. lanceolata, C. lenitiva, C. obovata, C. officinalis, C. senna, Senna acutifolia, S. alexandrina

VULG., Alexandrian senna, False senna, Nubian senna.

This undershrub is an indigene of Africa. It grows most abundantly in Upper Egypt.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '920, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '920, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '920, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '920, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol. sp. gr. '920, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SEPIA. (*se'pe-a.*)

CLASS, Mollusca.

ORDER, Dibranchiata.

FAMILY, Sepiadæ.

SYN., Sepia octopus, S. officinalis, S. succus.

VULG., Cuttle fish, Squid.

This excretory substance (in a dry state), is prepared from a fluid tissue of the above species of mollusca.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of sepia. Deposit the sepia in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar

one part of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of sepia. Deposit the sepia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sepia, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SILICA. (*sil'e-ca.*)

SYN., Acidum silicum, Silicea, Silicea terra, Silicic anhydride.

VULG., Flint, Silex, Silicious earth.

Formula.—SiO^2; 44.

Pure silica is obtained by decomposing any of the silicates; that is to say, by fusing them in the presence of an alkali. Flint or sand, together with five or six times its weight each of carbonate of sodium and potassium, yields, when fused, a product commercially known as *soluble* glass. This substance will also yield, when recently prepared, if boiled with water, and the water be afterward filtered and treated with an excess of hydrochloric acid, and then evaporated to dryness, and it be again boiled in acid and water, pure silica in the form of a light flaky deposit.

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of silicea. Deposit the silicea in a porcelain mortar, and add *three parts* of milk sugar, and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of silicea. Deposit the silicea in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the silicea, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SABAL SERRULATA. (*sab'al sur-ru-la'ta.*)

NAT. ORDER, Palmæ.

VULG.. Saw palmetto.

This plant is indigenous to the Southern States of North America.

The Preparations of the *fruit* of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, *two parts* of glycerin and *eight parts* of the fresh drupes (berries). Bruise the berries *thoroughly* in a Wedgewood mortar, express the juice and add sufficient alcohol together with the glycerin that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice, alcohol, glycerin, and enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate for seven days, express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh berries.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '835, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr.'835, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SILPHIUM LACINIATUM. (*sil'fi-um la-sin-i-a'tum.*)

NAT. ORDER, Compositæ.

VULG., Compass plant, Jagged-leaved silphium, Pilot weed, Polar weed, Rosin weed, Turpentine weed.

This plant is an habitat of the Western States of North America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-*

fourths parts of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SMIARUBA OFFICINALIS. (*smi-a-ru'ba of-fic-i-na'lis.*)

NAT. ORDER, Smirubaceæ.
SYN., Smiaruba amara, Quianensis.
VULG., Smiaruba.

This tree is indigenous to South America.

The Preparations of the bark of the root are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four part* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835. *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SINAPIS ALBA. (*sin'a-pis al'ba.*)

NAT. ORDER, Cruciferæ.
SYN., Brassica alba, Leucosinapis alba.
VULG., White mustard.

SINAPIS NIGRA. (*sin'a-pis ni'gra.*)

NAT. ORDER, Cruciferæ.
SYN., Brassica nigra, B. sinapioies, Melanosinapis communis.
VULG., Black mustard.

These annual plants are both indigenous to Europe; they are cultivated to some extent throughout the United States of America.

The Preparations of the seeds of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

SISYRINCHIUM BERMUDIANUM. (*sis-i-rin'she-um ber-mu-di-a'num.*)

NAT. ORDER, Iridaceæ.

VULG., Blue-eyed lily, Physic grass, Scurvy grass (?).

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SOLANUM. (*so-la'num.*)

NAT. ORDER, Solanaceæ.

SYN., Solanum cornato dentatum, S. inops, S. nigra, S. pterocaulon, S. ptycanthum, Solantrum nigrum.

VULG., Black nightshade, Common nightshade, Garden nightshade.

This annual plant is an habitat of Europe, Asia and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the *fresh* plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol (sp. gr. '941), that the menstruum shall equal *sixteen parts*. Macerate fourteen days, express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SOLANUM ARREBENTA. (*so-la'num ar-re-ben'ta.*)

NAT. ORDER, Solanaceæ.

SYN., Arrebenta cavallos.

This shrub is an indigene of South America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution,

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SOLANUM PSEUDO-CAPSICUM. (*so-la'num su-do-cap'si-cum.*)

NAT. ORDER, Solanaceæ.

VULG., Jerusalem cherry, Winter cherry.

This undershrub is an indigene of South Europe.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Run the leaves through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941 *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SOLIDAGO. (*sol-e-da'go.*)

NAT. ORDER, Compositæ.

VULG., Golden rod.

This plant is indigenous to Europe, Asia and North America.

The Preparations of the flowers of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried blossoms. Run the flowers through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SPIGELIA. (*spi-ge'lia.*)

NAT. ORDER, Loganiaceæ.

SYN., Anthelminthia quadriphylla.

VULG., Pink root, Worm grass.

This annual plant is indigenous to both the West Indies and South America. The *spigelia marilandica* (Carolina pink), an herbaceous perennial plant, is a native of the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

SPIGGURUS MARTINI. (*spig-gu'rus mar'tin-i.*)

CLASS, Mammalia.
ORDER, Glires.
FAMILY, Hystrichnia.
SYN., Chætomys subspinosus, Sphingurus martini, S. spinosa.
VULG., Porcupine.

SPIRÆA. (*spi-re'a.*)

NAT. ORDER, Rosaceæ.
SYN., Spiræa tomentosa, S. ulmaria (?).
VULG., Hardhack, Meadow sweet, Steeple-bush, White-leaf.

This small undershrub is an indigene of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SPONGIA TOSTA. (*spun'ge-a toe'sta.*)

CLASS, Poriphera.
ORDER, Ceratospongiæ.
SYN., Carbo spongiæ, S. tosta, S. usta.
VULG., Burnt sponge.

In preparing this substance the dark-colored coarse sponge, or, that commercially known as sheep's wool sponge is best. The sponge should be cut into small pieces, and, the extraneous matter calcarea, silex, etc., being removed, it should be enclosed in a *covered* thin iron shallow vessel and placed over an extremely hot quick fire. The sponge should be roasted until it is frailable, but it must *not* be incinerated.

The Preparations of spongia tosta are the tincture, its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *two parts* of the prepared sponge. Coarsely powder the sponge in a mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days, and filter.

The *drug power* of this tincture is 12 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the prepared sponge.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '835, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '835, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the prepared sponge. Deposit the sponge in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the prepared sponge. Deposit the sponge in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sponge, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SQUILLA. (*squil'la.*)

NAT. ORDER, Liliaceæ.

SYN., Cepa marina, Ornithogalum maritinum, O. scilla, Pancratium verum, Sancratium, Scilla hispanica, S. maritima, S. rufa magna vulgaris, S. vulgaris radice rubra, Squilla hispanica, S. rubra, S. vulgaris, Urginea maritima, U. scilla.

VULG., Sea onion, Squill.

This bulbous perennial plant is an habitat of the countries bordering the Mediteranean Sea.

The Preparations* of the bulbs of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of the recently dried squill. Run the squill through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the recently dried squill.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

STANNUM. (*stan'num.*)

SYN., Stannum metallicum.

VULG., Tin.

Formula.—Sn; 118.

This metallic base in form of a binoxide, existing under the name of *tinstone,* and associated with iron and manganese as the mineral *wolfram,* is mined in Bohemia and Saxony, in Great

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*ACETUM SCILLÆ.—*Vinegar* of squill is prepared as follows: To *sixteen parts* of diluted acetic acid, sp. gr. 1'004, add *two parts* of coarsely powdered squill; macerate for fourteen days, and filter.

Britain, also in Australia and in some parts of the United States of America. The pure metal in a precipitated form may be obtained by dissolving granulated tin in hydrochloric acid forming a solution of stannous chloride, and subsequently decomposing it by galvanic action;—that is to say, the strength of such a solution being first greatly reduced by the addition of water, the metal will be precipitated on introducing into it rods or strips of metallic zinc.

The Preparations of this precipitated metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of stannum. Deposit the metal in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of stannum. Deposit the stannum in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

STANNUM MURIATICUM. (*stan'num mu-ri-at'i-cum.*)

SYN., Stannous chloride, Stannum chloratum.

VULG., Chloride of tin, Muriate of tin.

Formula.—$Sn\,Cl^2$; 189.

To prepare the "Solution of Chloride of Tin" (B. P.),* dissolve *one part* of tin in *three parts* of hydrochloric acid and *one part* of water; and then add *five parts* more of water. The *solid* stannous chloride ($Sn\,Cl^2, 2\,H^2\,O$) may be obtained from this solution by evaporation and crystallization.

The Preparations of this salt are the decimal and centesimal triturations.

**Stannic Chloride* or perchloride of tin ($SnCl^4$) is prepared from this solution by boiling it, and slowly dropping nitric acid into it so long as any fumes are evolved.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of stannous chloride. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the stannous chloride. Deposit the chloride in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

STAPHISAGRIA. (*staf-e-sa' gre-a.*)

NAT. ORDER, Ranunculaceæ.

SYN., Delphinium staphisagria, Staphydis agria, S. pedicularis, Staph isagria macrocarpa.

VULG., Louse seeds, Palmated larkspur, Stavesacre.

This biennial plant is a native of the South of Europe.

The Preparations of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr '941, and *six parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water and, when cold, firmly pack in a conical percolator and add the menstruum, from time to time, until the percolate measures fourteen parts; then add sufficient water to force the remaining menstruum downward that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

STELLARIA MEDIA. (*stel-la'ria me'dia.*)

NAT. ORDER, Caryophyllaceæ.

SYN., Asine macropetata, A. media, Halosteum succulentum.

VULG., Chickweed.

This small annual plant is an habitat of both Europe and America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sufficient quantity*** of alcohol, sp. gr. '835, and *six parts* of the fresh whole plant Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have a specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

STICTA. (*stic'ta.*)

NAT. ORDER, Lichenes.

SYN., Lichen pulmonarius, Lobaria pulmonaria, Muscus pulmonaria, Pulmonaria reticulata, S. pulmonacea, S. pulmonaria, S. pulmonalia.

VULG., Lung-moss, Lungwort, Oak-lungs, True lungwort.

This variety of lichen is found attached to the trunk of the sugar maple, *acer saccharinum.*

The Preparations of this variety of lichen are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh lichen. Bruise the lichen thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh lichen.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

STILLINGIA. (*stil-lin' ge-a.*)

NAT. ORDER, Euphorbiaceæ.

SYN., Sapium sylvaticum, Stillingia sylvatica.

VULG., Cock-up-hat, Queen's delight, Queen's root, Silver leaf, Stillingia, Yaw root.

This herbaceous perennial plant is indigenous to the Southern States of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. ,941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

STRAMONIUM. (*stra-mo' ne-um.*)

NAT. ORDER, Solanaceæ.

SYN., Datura lurida, D. stramonium, Solanum maniacum, Stramonium fœtidum, S. majus album, S. spinosum.

VULG., Apple of Peru, Devil's apple, Jamestown weed, Stink weed, Stramonia, Thorn apple.

This plant, an annual, is an habitat of Europe, Asia, Africa and America.

The Preparations* of the seeds of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *two parts* of the recently dried ripe seeds. Run the seeds through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 12.5 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of the recently dried ripe seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

STRONTIUM CARBONICUM. (*stron'she-um car-bon'i-cum.*)

SYN., Carbonas stronticus, Strontia, S. carbonica, Strontianæ carbonas, Strontic carbonate.

VULG., Carbonate of strontium, Strontianite.

Formula.—$SrCO^3$;—

The acid solution of *strontianite*, or any of the salts of strontium dissolved in hydrochloric acid, and properly diluted, when treated with a solution of carbonate of ammonium will yield pure carbonate of strontium.

The Preparations of the carbonate of strontium are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the carbonate of strontium. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

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*UNGUENTUM STRAMONII.—*Ointment of Stramonium.* "Extract of stramonium *ten parts*, water *five parts*, benzoated lard *eighty-five parts*. Rub the extract with the water until uniformly soft; then gradually add the benzoated lard and mix thoroughly."—*Pharm. U. S.*

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the carbonate of strontium. Deposit the carbonate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

STRYCHNINUM. (*strick-ni'num.*)

SYN., Strychninum purum, Strychnia.
VULG., Strychnine.

Formula.—$C^{21}\ H^{22}\ N^{2}\ O^{2}$; 334.

This alkaloid, strychnia, is obtained from the fruit of the *strychnos nux vomica;* also, from the fruit of the *strychnos ignatia.* It is a colorless, crystalline, odorless powder, possessing an intense bitter taste. It is soluble in 6700 parts of water and in 110 parts of alcohol (15° C.) 59° F.; it is soluble in 5 parts of chloroform.

Tests.—The most minute traces of the presence of strychnia or its salts may be detected in the following manner: To a few drops of concentrated sulphuric acid add a few drops of the suspected liquid, and then a limited quantity of bichromate of potassium. The presence of strychnia is made known by the rapid play of colors; the liquid is first *blue,* then *violet,* and subsequently *cherry-red.* The presence of the alkaloid brucine may be detected by treating the substance, either in liquid or solid form, with nitric acid; if more than a trace of brucine is present the substance is immediately *reddened.*

STRYCHNINUM MURIATICUM. (*strick-ni'num mu-ri-at'i-cum.*)

SYN., Strychniæ hydrochloras.
VULG., Muriate of strychnia, Muriate of strychnine.

Formula.—$2\ C^{21}\ H^{22}\ N^{2}\ O^{2}.\quad HCl\ 3\ H^{2}\ O$; 795.

This salt is prepared by dissolving strychnia in diluted hydrochloric acid. The solution is then set aside for crystallization.

STRYCHNINUM NITRICUM. (*strick-ni'num ni-tri'cum.*)

SYN., Strychniæ nitras.
VULG., Nitrate of Strychnia, Nitrate of Strychnine.

Formula.—$C\ \ H^{22}\ N^{2}\ O^{2}\ HNO$; 397.

This salt is prepared by dissolving strychnia in diluted nitric acid. The solution is then set aside for crystallization.

STRYCHNINUM PHOSPHORICUM. (*strick-ni'num fos-four'i-cum.*)

SYN., Strychniæ phosphas.
VULG., Phosphate of strychnia, Phosphate of strychnine.

This salt is prepared by dissolving strychnia in diluted phosphoric acid. The solution is then set aside for crystallization.

STRYCHNINUM SULPHURICUM. (*strick-ni'num sul-fu'ri-cum.*)

SYN., Strychniæ sulphas.
VULG., Sulphate of strychnia, Sulphate of strychnine.
Formula.—$2\ C^{21}\ H^{22}\ N^{2}\ O^{2}.\ \ H^{2}\ SO^{4}.\ \ 7\ H^{2}\ O$; 892.

This salt is prepared by dissolving strychnia in a sufficient quantity of hot distilled water, to which there is being gradually added sufficient diluted sulphuric acid to neutralize the alkaloid. The solution when perfected, is filtered, evaporated, and is set aside for crystallization.

The Preparations of strychnia and these several salts are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of strychnia. Deposit the strychnia in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of strychnia. Deposit the strychnia in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the strychnia, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SUCCINUM. (*suc'se-num.*)

SYN., Amber.

This fossil resin, which is supposed to be an exudation from an extinct coniferous growth—from the *pinitis succinefer* is chiefly obtained from the coast of the Baltic Sea.

The Preparations of this resin are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the resin. Deposit the resin in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the resin. Deposit the resin in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the resin, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

SULPHUR. (*sul'fur.*)

SYN., Flores sulphuris, Sulphur depuratum, S. sublimatum.
VULG., Brimstone, Flowers of sulphur.

Formula.—S; 32.

This non-metallic element, although commonly associated with the metallic ores is also a constituent of several proteids. Purified by fusion and sublimation, thus separated from extraneous matter, it is commercially known as *roll sulphur* (brimstone) and *flowers of sulphur.* That used in the arts and in medicine is chiefly imported from Sicily.

The Preparations of washed* sulphur are the decimal and centesimal triturations. Besides these, there is an *ointment of sulphur.*

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* SULPHUR LOTUM.—*Washed Sulphur.*—That all traces of free acid shall be removed, flowers of sulphur (in any quantity) is digested for three or four days (being occasionally agitated) in a 10 per cent aqueous solution of ammonia; an equal quantity of distilled water is now added and the mixture is transferred to a muslin strainer and the sulphur washed so long as any reaction occurs upon treating the wash-water with a solution of chloride of barium.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the washed sulphur. Deposit the sulphur in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the washed sulphur. Deposit the sulphur in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the sulphur, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.*—To *eighty parts* of benzoinated lard add *twenty parts* of washed sulphur. Add the sulphur gradually and thoroughly incorporate it with the lard.

SULPHUR IODATUM. (*sul'fur i-o-dat'um.*)

SYN., Ioduretum sulphuris, Sulphuris iodidum.

VULG., Iodide of sulphur.

This iodide is prepared by mixing iodine and sulphur together in the proportion of four parts of the former to one part of the latter and gently heating the mixture in a flask the orifice of which is loosely closed. Liquefaction occurring the heat is withdrawn. The fused mass is then broken to pieces and should be kept in a glass-stoppered bottle. Iodide of sulphur is insoluble in both alcohol and water; it is soluble in 62 parts of glycerin.

The Preparations of this iodide are the decimal and centesimal triturations. Besides these, there is an *ointment of iodide of sulphur.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the iodide of sulphur. Deposit the iodide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

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* UNGUENTUM HEPAR SULPHURIS KALI.—*Ointment of Liver of Sulphur.*—To *ninety parts* of simple ointment add *ten parts* of finely-powdered potassii sulphuretum. Add the liver of sulphur gradually, and thoroughly incorporate it with the ointment.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the iodide of sulphur. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the iodide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Ointment.—To *ninety-five parts* of benzoinated lard add *five parts* of finely-powdered iodide of sulphur. Add the iodide first to a small quantity of the lard, mix together thoroughly, then incorporate the remaining portion of the lard.

SUMBUL. (*sum'bul.*)

NAT. ORDER, Umbelliferæ.

SYN., Euryangium sumbul, Ferula sumbul, Jatamansi, Nardostachys jatamansi, Sumbulus moschatus.

VULG., Musk root.

This perennial plant is indigenous to Central Asia.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and *moisten* with hot (112° F.) water; digest for five or six hours and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

SYMPHITUM. (*sim'fe-tum.*)

NAT. ORDER, Borraginaceæ.
SYN., Consolida majoris, Symphytum officinale.
VULG., Comfrey, Gum plant, Healing herb.

This perennial plant, although an indigene of Europe, is an habitat of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

SYRINGA. (*sy-rin'ga.*)

NAT. ORDER, Oleaceæ.
SYN., Syringa vulgaris.
VULG., Lilac.

This common garden shrub, an habitat of both Europe and America, is an indigene of Oriental Europe.

The preparations of the flowers and leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol sp. gr. '835, *two parts* of the fresh flowers and *four parts* of the fresh young leaves. Bruise the flowers and leaves thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol (sp. gr. '941), that the menstruum shall equal *sixteen parts*. Macerate for seven days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh flowers and leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TABACUM. (*tab'a-cum.*)

NAT. ORDER, Solanaceæ.

SYN., Consolida indica, Hyoscyamus peruviana, Nicotiana auriculata, N. macrophylla, N. tabacum.

VULG., Tobacco.

This annual plant, *nicotiana tabacum*, is a native of tropical America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of tobacco.*

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Reduce the leaves to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Ointment.—To *sixteen parts* of benzoinated lard add *two parts* of tobacco. Reduce the tobacco to a moderately coarse powder, moisten with boiling water, transfer to a suitable vessel, add the lard and simmer over a brisk fire until the fat ceases to sputter. Strain, and stir the ointment until cold.

TAMUS COMMUNIS. (*ta'mus com-mu'nis.*)

NAT. ORDER, Dioscoreaceæ.

VULG., Black bryonia.

This plant, is indigenous to Europe, Asia and Africa.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr.

941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TANACETUM VULGARE. (*tan-a-ce'tum vul-ga're.*)

NAT. ORDER, Compositæ.
SYN., Athanasia.
VULG., Double tansy, Tansy.

This herbaceous perennial plant is an indigene of Europe and Central Asia. It is an habitat of the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the *fresh* plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol (sp. gr. '941), that the menstruum shall equal *sixteen parts*. Macerate for seven days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TANGHINIA VENENIFERA. (*tan-gin'ia ven-e-nif'e-ra.*)

NAT. ORDER, Apocynaceæ.
SYN., Cerbera tanghin.
VULG., Madagascar poison nut.

This tree, *cerbera tanghin*, is a native of Madagascar.

The Preparations of the kernel of the fruit (a deadly poison) are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *ten parts* of alcohol, sp. gr. '835, and *one part* of the finely-powdered nut. Transfer the powdered drug to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 10 per cent; or, each minim contains the medicinal properties of *one-tenth grain* of the powdered nut.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of tincture; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TARANTULA. (*ta-ran'tu-la.*)

CLASS, Arachnida.
ORDER, Araneidea.
FAMILY, Lycosidæ.
SYN., Lycosa tarantula (?).
VULG., Cuban spider.

TARANTULA HISPANA. (*ta-ran'tu-la his-pan'a.*)

CLASS, Arachnidæ.
ORDER, Araneida.
FAMILY, Lycosidæ.
SYN., Lycosa tarantula.
VULG., South American spider, Spanish spider.

The Preparations* of the tissue (?) (venom) of these spiders are the tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *ten parts* of alcohol, sp. gr. '835, and *one part* of the fresh tissues. Chloroform the *living* spiders (See Aranea diadema pg. 210), crush them in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter.

The *drug power* of this tincture is 10 per cent; or, each minim contains the medicinal properties of *one-tenth grain* of the living tissue.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of tincture; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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*The decimal and centesimal triturations may be also prepared as directed for the *Aranea diadema*, pg. 210. All first decimal triturations of fresh animal matter should be continued, if necessary, *longer* than the specified time—that is, until all moisture is driven off and the trituration is actually dry.

To prepare the *first centesimal* dilution it requires to *ninety parts* of alcohol, sp. gr. '835, *ten parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

TARAXACUM. (*ta-rax'a-cum.*)

NAT. ORDER, Compositæ.

SYN., Dens leonis, Lactuca pratense, Leontodontis, Leontodon officinalis, L. taraxacum, L. vulgare, Taraxacum dens leonis, T. officinale, T. vulgare,

VULG., Balloon plant, Dandelion, Monkshood (?), Puff ball (?).

This perennial plant is an universal habitat, growing throughout the Northern Hemisphere.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take a *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the *fresh* whole plant. Chop up and bruise the plant thoroughly in a Wedgewood mortar, express the juice, add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol, and enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate for fourteen days; express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TAXUS BACCATA. (*tax'us bac-ka'ta.*)

NAT. ORDER, Coniferæ.

VULG., Ground hemlock, Yew.

This evergreen shrub is indigenous to Europe, Asia and Northern Africa.

The Preparations of the recently dried leaves are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried leaves. Reduce the leaves to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835 *one part* of each succeeding dilution.

TECOMA RADICANS. (*te-co'ma rad'i-cans.*)

NAT. ORDER, Bignoniaceæ.

SYN., Bignonia radicans.

VULG., Trumpet creeper, Trumpet flower, Virginia creeper (?).

This climbing plant is an indigene of the Southern States of North America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol. sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TELA ARANEA. (*te'la a-ra'nea.*)

VULG., Cobweb, Spider's web.

The Preparations of the recently spun web are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the web. Deposit the web (free from dust) in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The ***second decimal*** trituration requires to ***nine parts*** of milk sugar ***one part*** of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add ***three parts*** of milk sugar and steadily triturate for fifteen minutes; add ***three parts*** more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to ***nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***second decimal*** trituration.

The ***first centesimal*** trituration requires ***ninety-nine parts*** of milk sugar to ***one part*** of the web. Deposit the web in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the web, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

TELLURIUM. (*tel-lu're-um.*)

Formula.—Te; 64.

This rare metal is found associated with gold, silver, lead and bismuth in the mining regions of both Transylvania and Saxony. It is separated from bismuth sulpho-telluride by decomposition; the bismuth and sodium carbonate being mixed and fired to a white heat, the metallic bismuth is set free, and the remaining mass on being treated with water and exposed to the air is oxidized leaving the tellurium in a metallic state. The specific gravity of tellurium is about 6'25; it is of a brilliant white lustre, exceedingly brittle and easily fusible.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the ***first decimal*** trituration it requires to ***nine parts*** of milk sugar ***one part*** of tellurium. Deposit the metal in a porcelain mortar, and add three parts of milk sugar and steadily triturate for twenty minutes; add three parts more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The ***second decimal*** trituration requires to ***nine parts*** of milk sugar ***one part*** of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add three parts of milk sugar and steadily triturate for fifteen minutes; add three parts more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to ***nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***second decimal*** trituration.

The ***first centesimal*** trituration requires ***ninety-nine parts*** of milk sugar to ***one part*** of tellurium. Deposit the tellurium in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

TEREBINTHINA. (*ter-e-bin'the-na.*

SYN., Oleum terebinthinæ.

VULG., Oil of turpentine.

This colorless, thin, volatile substance is an oleaginous fluid that is separated by distillation from the oleoresinous exudation of the *pinus palustris* and other species of pinus. Its sp. gr. is about '865.

The Preparations of the oil of turpentine are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *ninety-nine parts* alcohol, sp. gr. '835, *one part* of the oil of turpentine; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the oil of turpentine; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TEUCRIUM. (*teu'cre-um.*)

NAT. ORDER, Labiatæ.

SYN., Herba cyniaci, Marjorana syriaca, Marum verum, Teucrium marum.

VULG., Cat thyme, Syrian herb mastich.

This plant is indigenous to Southern Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture, take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Reduce the plant to a coarse powder, transfer it to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

THASPIUM AUREUM. (*thas'pe-um au're-um.*)

NAT. ORDER, Umbelliferæ.

SYN., Sison aureus, S. trifoliatum, Sium trifoliatum, Smyrnium acuminatum, S. aureum, S. luteum, Zizia aurea.

VULG., Golden alexanders, Meadow parsnip.

This plant is a native of the United States and Canada.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried whole plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second* decimal dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

THEA CHINENSIS. (*the'a chin-en'sis.*)

NAT. ORDER, Ternstromiaceæ.

SYN., Camellia thea, C. theifera, Thea assimica, T. bohea, T. cæsarea, T. imperialis, T. sinensis, T. stricta, T. veridis.

VULG., Tea.

This evergreen shrub is indigenous to Southern Asia. It is cultivated in India, China and Japan.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried (green tea) leaves. Reduce the leaves to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

THERIDION CURASSAVICUM. (*the-rid'i-on cu-ras-sa'vi-cum.*)

CLASS, Arachnoidea.
ORDER, Araneæ.
FAMILY, Sedentariæ.
VULG., Black spider of Curacoa, Orange spider.

This species of *araneæ* is a native of the West Indies.

The Preparations of the tissues of this spider are the tincture and its decimal and centesimal dilutions, and the decimal and centesimal triturations.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the fresh animal matter. Secure the *living* spiders in a wide-mouthed bottle of medium size, first introducing a small size sponge, add a drachm or two of chloroform, then remove the spiders and crush them in a Wedgewood mortar and to *four parts* of animal matter, after transfering it to a suitable vessel, add the alcohol and macerate for seven days; express and filter.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the living spider.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Triturations.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the chloroformed spiders. Deposit the spiders in a porcelain mortar, and add *three parts* of coarse milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for thirty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one* *part* of the chloroformed spiders. Deposit the spiders in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the spiders, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

THUJA. (*thu'ja.*)

NAT. ORDER, Coniferæ.

SYN., Arbor vitæ, Cedrus lycea, Thuja occidentalis.

VULG., American arbor vitæ, False white cedar, Tree of life, White cedar (?).

This evergreen shrub, or small tree, is an indigene of the Northern United States of America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions. Besides these, there is an *ointment of thuja.*

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '835, and ***six parts*** of the fresh leaves. Bruise the leaves thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The ***drug power*** of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of ***three-eighths grain*** of the fresh leaves.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***seven and three-fourths parts*** of alcohol, sp. gr. '835, ***two and one-fourth parts*** of the tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-seven and three-fourths parts*** of alcohol, sp. gr. '835, ***two and one-fourth parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

Ointment.—To ***one hundred parts*** of simple ointment add ***ten parts*** of the fresh leaves. Bruise the leaves thoroughly in a Wedgewood mortar, ***moisten*** with alcohol, sp. gr. '835, and digest for six hours; transfer to a suitable vessel, add the ointment and fuse together over a moderately slow fire until the fat ceases to sputter. Strain, and stir until cold.

THYMUS. (*thy'mus.*)

NAT. ORDER, Labiatæ.

SYN., Thymus serpyllum.

VULG., Creeping thyme, Wild thyme.

THYMUS VULGARIS. (*thy'mus vul-ga'ris.*)

NAT. ORDER, Labiatæ.

VULG., Garden thyme, Mother of thyme, Standing thyme, Thyme.

These two species of *thymus* are both indigenous to South Europe. The *thymus vulgaris* is more or less cultivated in the gardens of this country.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *fifteen parts* of alcohol, sp. gr. '835, and *six parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourth parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol. sp. gr. '835, *one part* of each succeeding dilution.

TILIA. (*til'e-a.*)

NAT. ORDER, Tiliaceæ.

SYN., Tilia Europæa.

VULG., Common lime tree, Linden tree.

This tree is an indigene of Europe.

The Preparations of the fresh blossoms of this tree are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the fresh flowers. Bruise the flowers thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh flowers.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

Tô prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TONGO. (*ton'go.*)

NAT. ORDER, Leguminosæ.

SYN., Baryosma tongo, Coumarouma odorata, Dipterix odorata.

VULG., Tongo bean, Tonka bean, Tonquin bean, Sweet-scented tonquin bean.

This substance is the seed of the fruit of the *dipterix odorata*, a tree indigenous to Guiana. Its crystallizable, odorous principle (coumarin) is alleged to be identical with that of *anthoxanthum odoratum, asperula odorata* and *trifolium melilotus.*

The Preparations of the seeds are the tincture and the decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently dried seeds. Cut up the seeds (beans) and reduce them to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried seeds.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

TRADESCANTIA VIRGINICA. (*trad-es-can'she-a vir-gin'i-ca.*)

NAT. ORDER, Commelynaceæ.

SYN., Tradescantia commelina.

VULG., Spiderwort.

This herbaceous perennial herb is and indigene of the Southern States of North America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried leaves. Reduce the leaves to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRIFOLIUM. (*tri-fo' le-um.*)

NAT. ORDER, Leguminosæ.

SYN., Trifolium campestre, T. minimum, T. plumosum, T. pratense, T. procumbens.

VULG., Common red clover, Red clover.

TRIFOLIUM ARVENSE. (*tri-fo' le-um ar-ven' se.*)

NAT. ORDER, Leguminosæ.

VULG., Hare's foot, Rabbit's foot, Stone clover.

These two biennial species of *trifolium* are habitats of both Europe and America.

The Preparations of the flowers of the former and the whole plant of the latter, are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh plant. Bruise the plant thoroughly in a Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRILLIUM. (*trill ĭ-um.*)

NAT. ORDER, Trilliaceæ.

SYN., Trillium album, T. erectum, T. pendulum.

VULG., Beth root, Birth root, Cough root, Ground lily, Indian balm, Jews-harp, Lamb's quarter, Nodding wake robin, Snake bite, Wake robin, White beth root.

This plant is indigenous to the Middle and Western States of North America.

The Preparations* of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRIOSTEUM. (*tri-os'te-um.*)

NAT. ORDER, Caprifoliaceæ.

SYN., Triosteum perfoliatum.

VULG., Bastard ipecac, Cinque, Doctor Tinker's weed, Dog grass, False ipecac, Fever root, Fever wort, Horse gentian, Horse ginseng, Quickens, White gentian, Wild coffee, Wild ipecac (?), Witch grass.

This perennial plant is an indigene of the United States of America.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the

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* The decimal and centesimal triturations of *trillin*, the resinoid of trillum pendulum, may also be prepared. (See Leptandrin, p. 447.)

second centesimal dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TRITICUM. (*trit'i-cum.*)

NAT. ORDER, Graminaceæ.

SYN., Triticum repens.

VULG., Couch grass, Dog grass, Quickens (?), Twitch grass.

This perennial plant is an indigene of Europe.

The preparations of the rhizome (root) are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '960, and *six parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '960, that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '960, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '960, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. ,960, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '960, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

TUSSILAGO FARFARA. (*tus-se-la'go far'fa-ra.*)

NAT. ORDER, Compositæ.

SYN., Farfara.

VULG., Bull's foot, Colt's foot, Flower velure.

This perennial plant is an habitat of both Europe and America.

The Preparations of the fresh plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the fresh *young* leaves. Bruise the leaves in a Wedgewood mortar, express the juice and add sufficient alcohol, sp. gr. '835, that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol (sp. gr. '941), that the menstruum shall equal *sixteen parts.* Macerate for seven days, express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

URANIUM NITRICUM. (*u-ra'ne-um ni'tri-cum.*)

SYN., Uranic nitrate, Uranii nitras.

VULG., Nitrate of uranium.

Formula.—$UO^2\ 2\ NO^3.\ CH^2\ O.$

This metallic salt is prepared by dissolving the powdered mineral pitchblende in nitric acid, evaporating the solution to dryness, adding water, filtering the liquid and duly concentrating its density. This solution yields the nitrate of uranium in form of lemon-yellow colored prisms, which may be purified by re-crystallization in the presence of ether.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the nitrate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the nitrate. Deposit the nitrate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

URTICA DIOICA. (*ur-te'ka di-oi'ka.*)

NAT. ORDER, Urticaceæ.

SYN., Urtica major.

VULG., Common nettle, Great stinging nettle.

URTICA URENS. (*ur-te'ka u'rens.*)

NAT. ORDER, Urticaceæ.

SYN., Urtica minora.

VULG., Dwarf nettle, Small stinging nettle.

These herbaceous perennial plants are habitats of both Europe and America.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the *fresh* plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add to it sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol, (sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate for seven days, express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

USTILAGO MAYDIS. (*us-ti-la'go ma'i-dis.*)

NAT. ORDER, Fungi.

VULG., Corn smut, Ergot of corn, Maize smut.

The Preparations of this fungus from the *zea mays* (Indian corn), are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently gathered fungus. Reduce the fungus to a moderately coarse powder, transfer to a suitable vessel, and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently gathered fungus.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution,

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

UVA URSI. (*u'va ur'si.*)

NAT. ORDER, Ericaceæ.

SYN., Arbutus uva ursi, Arctostaphylos officinalis, A. uva ursi, Daphnidostaphylis fendlerana.

VULG., Bear-berry, Trailing arbutus (?).

This evergreen, hardy, trailing shrub, is an habitat of Northern Europe, Asia and America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried leaves. Reduce the leaves to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VACCININUM. (*vac-ci-ni'num.*)

VULG., Bovine virus, Vaccine virus.

The Preparations (?) of this animal substance (fresh lymph or crust) are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of *fresh bovine* virus. Deposit the virus in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes;

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of *fresh bovine* virus. Deposit the virus in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the virus, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

VALERIANA OFFICINALIS. (*va-le-re-a'na of-fic-e-na'lis.*)

NAT. ORDER, Valerianaceæ.

SYN., Phu germanicum, P. parvum, V. angustifolia, V. minor, V. sambucifolia, V. sylvestris major.

VULG., All heal, Great wild valerian, Heal-all, Valerian.

This herbaceous plant is an indigene of Europe.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried root. Run the root through drug mill, reduce to a moderately fine powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VANILLA. (*va-nil'la.*)

NAT. ORDER, Orchidaceæ.

SYN., Myrobroma fragrans, V. aromatica, V. claviculata, V. planifolia, V. sativa, V. sylvestris, V. viridiflora.

VULG., Fragrant vanilla, Vanilla.

This substance is supposed to be the dried unripe fruit of either the *vanilla aromatica*, or else of the *vanilla planifolia*, or, of both. These climbing plants are both natives of the West Indies, Mexico, and South America.

The Preparations of the dried unripe capsules are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, *two parts* of coarse milk sugar and *two parts* of the vanilla capsules (finely cut). Mix the milk sugar and the vanilla together in a Wedgewood mortar, and thoroughly triturate until a uniform powder is obtained; transfer the mixture to a suitable vessel and add the alcohol and macerate for fourteen days;

express and filter, and add sufficient alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 12 per cent; or, each minim contains the medicinal properties of *one-eighth grain* of vanilla.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *two parts* alcohol, sp. gr. '941, *eight parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-two parts* of alcohol, sp. gr. '941, *eight parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VARIOLINUM. (*va-ri-o-li'num.*)

VULG., Small-pox virus.

The Preparations (?) of the fresh virus of a small-pox pustule are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the fresh virus. Deposit the virus in a porcelain mortar, and add *three parts* of milk sugar, and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the fresh virus. Deposit the virus in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the virus, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

VERATRINUM. (*ve- ra-tri'num.*)

SYN., Sabadillin, Veratria, Veratrina.

VULG., Veratrine.

Foamula.—$C^{32} H^{52} N^{2} O^{8}$; 592.

This alkaloidal salt is obtained from *colchicum, sabadilla, veratrum album,* and *v. viride* in form of an amorphous grayish-white powder; it is soluble in 3 parts of alcohol, in 6 parts of ether, in 3.5 parts of chloroform, in 97 parts of glycerin and in

56 parts of either cotton seed or olive oil at (15° C) 59° F.

Tests.—Veratrine forms a *blood-red* solution when heated with concentrated hydrochloric acid; a *yellow* solution when treated with nitric acid, and when brought in contact with strong sulphuric acid it assumes, first, a *yellow* color, then *orange*, then *scarlet*, and finally a *violet-red* color.

The Preparations of this salt are the decimal and centesimal triturations. Besides these, there is an *oleate of veratria.*

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of veratria. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of veratria. Deposit the veratria in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

Oleate.—To *ninety-six parts* of oleic acid add *four parts* of veratria. Dissolve the salt in a *sufficient quantity* of hot (112° F.) alcohol (in a glass mortar), gradually add the oleic acid and continue to agitate until thoroughly mixed.

VERATRUM ALBUM. (*ve-ra'trum al'bum.*)

NAT. ORDER, Melanthoceæ.

SYN., Elleborum album, Helleborus albus, H. præcox.

VULG., European hellebore, White hellebore.

VERATRUM VIRIDE. (*ve-ra'trum ver'e-de.*)

NAT. ORDER, Melanthaceæ.

SYN., Helonias viridis.

VULG., American hellebore, American white hellebore, Green hellebore, Indian poke, Itch weed, Poke root (?), Swamp hellebore, Wolf's bane.

The first of these two species is indigenous to Continental Europe; it is also an habitat of Russia, Siberia, Northern China and Japan. The latter is indigenous to Canada, and to the Northern United States of America.

The Preparations of the root of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *eight parts* of the *recently* dried root. Run the root through drug mill, reduce to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the recently dried root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '835, *two parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '835, *two parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VERBASCUM. (*ver-bas'cum.*)

NAT. ORDER, Scrophulariaceæ.

SYN., Thapsus barbatus, Verbascum thapsus.

VULG., Blattaria, Common mullein, Hare's beard, Itch-weed (?), Long taper, Mullein, Shepherd's club, Yellow moth.

This plant, although a native of Europe, is an habitat of the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VERBENA HASTALA. (*ver-be'na has-ta'la.*)

NAT. ORDER, Verbenaceæ.

VULG., Ague weed, American vervain, Blue vervain, Halbert-leaved vervain, Purvain, Simpler's joy, Wild hyssop.

VERBENA OFFICINALIS. (*ver-be'na of-fic-i-na'lis.*)

NAT. ORDER, Verbenaceæ.

VULG., Common vervain, European vervain, verbena.

VERBENA URTICIFOLIA. (*ver-be'na ur-ti-ci-fo'lia.*)

NAT. ORDER, Verbenaceæ.

VULG., Nettle-leaved vervain, White vervain.

The first and last species named, are indigenous to the United States of America. The *verbena officinalis* is an indigene of South Europe.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol, sp. gr. '941, that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VERONICA BECCABUNGA. (*ve-ron'e-ca bec-ca-bun ga.*)

NAT. ORDER, Scrophulariaceæ.

SYN., Veronica americana, V. anagallis, V. intermedia.

VULG., Brook lime.

This succulent plant is an habitat of both Europe and Asia.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the *fresh* plant. Bruise the plant thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol (sp. gr. '941), that the menstruum shall equal *sixteen parts*. Macerate seven days, express and filter.

The *drug power* of this tincture is **37.5 per cent; or, each minim contains the** medicinal properties of ***three-eighths grain*** **of the fresh plant.**

DILUTIONS.—To prepare the ***first decimal*** dilution it requires **to *seven and three-fourths parts*** of alcohol, **sp. gr. '941, *two and one-fourth parts* of the tincture;** the *second decimal* dilution, to ***nine parts*** **of alcohol, sp. gr. '941, *one part* of the** first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to ***ninety-seven and three-fourths parts*** of alcohol, sp. gr. '941, ***two and one-fourth parts*** of the tincture; the *second centesimal* dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** **of each succeeding** dilution.

VESPA CRABRO. (*ves'pa cra'bro.*)

CLASS, Insecta.
ORDER, Hymenoptera.
FAMILY, Vesparisæ.
VULG., Wasp.

The Preparations of the living wasp are the tincture, its decimal and centesimal dilutions, and the decimal and centesimal triturations.

(For Preparations See *Apis mellifica*, p. 203.)

VIBURNUM OPULIS. (*vi-bur'num o'pu-lis.*)

NAT. ORDER, Caprifoliaceæ.
SYN., Viburnum edule, V. oxycoccus.
VULG., Cramp bark, Cranberry tree, Guelder rose, High cranberry, Nanny-bush bark, Sheep's berry, Snowball.

This shrub is an habitat of the United States of North America.

The Preparations of the bark of the root of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take ***sixteen parts*** of alcohol, sp. gr. '941, and *four parts* of the recently dried bark of the root. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal ***sixteen parts.***

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of ***one-fourth grain*** of the recently dried bark of the root.

DILUTIONS.—To prepare the ***first decimal*** dilution it requires to ***six parts*** alcohol, sp. gr. '941, *four parts* of the tincture; the ***second decimal*** dilution, to ***nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first decimal dilution.

All subsequent dilutions are made by adding to ***nine parts*** of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety-six parts*** of alcohol, sp. gr. '941, ***four parts*** of the tincture; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '941, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

VIBURNUM PRUNIFOLIUM. (*vi-bur'num pru-nə-fo'li-um.*)

NAT. ORDER, Caprifoliaceæ.

VULG., Black haw, Plum-leaved viburnum.

This shrub, a small tree, is an habitat of the United States of America.

The Preparations of the *fresh* fruit of this shrub are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *eight parts* of the *fresh* fruit. Bruise the fruit thoroughly in a Wedgewood mortar, express the juice and sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised fruit to a suitable vessel and add the expressed juice and alcohol and enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts*. Macerate for seven days; express and filter.

The *drug power* of this tincture is 50 per cent; or, each minim contains the medicinal properties of *one-half grain* of the fresh fruit.

Dilutions.—To prepare the *first decimal* dilution it requires to *eight parts* alcohol, sp. gr. '941, *two parts* of tincture; the *second decimal* dilution, to *ninety nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-eight parts* of alcohol, sp. gr. '941, *two parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941. *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VINCA MINOR. (*vin'ka mi'nor.*)

NAT. ORDER, Apocynaceæ.

SYN., Vinca pervinca.

VULG., Common periwinkle, Lesser periwinkle, Small periwinkle, Wintergreen (?).

This small evergreen plant is indigenous to Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried plant. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

Dilutions.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VIOLA ODORATA. (*vi'o-la od-o-ra'ta.*)

NAT. ORDER, Violaceæ.
SYN., Viola alba, V. imberis, V. mactia, V. martia, V. sauvis.
VULG., Sweet violet, Sweet-scented violet.

VIOLA TRICOLOR. (*vi'o-la tri'color.*)

NAT. ORDER, Violaceæ.
SYN., Herba trinitatis, Jacea.
VULG., Heart's ease, Pansy.

These annual plants are indigenous to Europe and Northern Asia. They are both ornamental plants in the gardens of the United States of America.

The Preparations of these plants are their tinctures and their decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the fresh plant in flower. Bruise the plant thoroughly in Wedgewood mortar, transfer to a suitable vessel and add the alcohol and macerate for seven days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three fourths parts* alcohol, sp. gr. '835, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VISCUM ALBUM. (*vis'cum al'bum.*)

NAT. ORDER, Loranthaceæ.
SYN., Viscum florescens, Viscus quercas.
VULG., Mistletoe.

This parasitic evergreen growth is an indigene of Europe.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *six parts* of the recently dried leaves. Reduce leaves to a coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol. sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VITIS VINIFERA. (*vi'tis vi-nif'e-ra.*)

NAT. ORDER, Vitaceæ.
VULG., Grape vine.

The grape vine is a native of Central Asia; it is an habitat of both Europe and America.

The Preparations of the leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. '835, and *six parts* of the fresh leaves. Bruise the leaves thoroughly in a Wedgewood mortar, express the juice and add sufficient alcohol that the mixture shall have the specific gravity of '941; transfer the bruised plant to a suitable vessel and add the expressed juice and alcohol and enough more alcohol, sp. gr. '941, that the menstruum shall equal *sixteen parts.* Macerate for seven days, express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

VULPIS FEL. (*vul'pis fel.*)

VULG., Fox-gall.

This substance, as the name indicates, is the inspissated gall of the fox (canis vulpes).

The Preparations of this substance are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the inspissated gall. Deposit the gall in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the inspissated gall. Deposit the gall in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the gall, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

WYETHIA HELENIOIDES. (*y-e'the-a hel-en-io-i'des.*)

NAT. ORDER, Compositæ.

SYN., Alarzonia helenioides, Melartiza inuloides.

This perennial plant is an habitat of the Pacific coast of the United States of America; common throughout the valley of the Sacramento.

The Preparations of the fresh root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sufficient quantity* of alcohol, sp. gr. ·835, and *six parts* of the fresh root. Chop up and bruise the root thoroughly in an iron mortar, express the juice add sufficient alcohol that the mixture shall have the specific gravity of ·941; transfer the bruised root to a suitable vessel and add the expressed juice and alcohol, and enough more alcohol, that the menstruum shall equal *sixteen parts.* Macerate for seven days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. ·941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. ·941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourths parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

XANTHIUM SPINOSUM. (*zan'the-um spi-no'sum.*)

NAT. ORDER, Ambrosiaceæ.

VULG., Spiny clotbur.

This plant although indigenous to Southern Europe, is also found growing in several parts of the United States of America.

The Preparations of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the recently dried herb. Run the plant through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel, add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol, (sp. gr. '941), that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently dried plant.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '941, *four parts* of the tincture; the *second centesimal* dilution to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

XANTHOXYLUM. (*zan-thox'e-lum.*)

NAT. ORDER, Rutaceæ.

SYN., Thylax fraxineum, X. americanum, X. clava-herculis, X. fraxineum, X. fraxinifolium, X. mite, X. ramiflorum, X. tricarpium.

VULG., Angelica tree, Northern prickly ash, Pellitory, Prickly ash, Suterberry, Toothache tree, Yellow wood.

This shrub is indigenous to the United states of America.

The Preparations* of the bark of this shrub are the tincture and its decimal and centesimal dilutions.

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* *Xanthoxylin*, the oleo-resinous principle of the bark which is obtained by treating a saturated alcoholic tincture with water, is sometimes homœopathically employed in the form of a decimal trituration.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *six parts* of the recently dried bark. Run the bark through drug mill, reduce to a moderately coarse powder, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts.*

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the recently dried bark.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. 835 , *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '835, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

XYLOL. (*zy'lol.*)

SYN., Dimethyl-benzol.

Formula.—$C^8 H^{10}$; 106.

This colorless, oily, thin fluid is obtained from crude wood spirit and is also found in coal-naptha. It has an odor somewhat like that of benzol. Its sp. gr. is '866. Xylol is insoluble in water but is freely soluble in alcohol.

The Preparations of this fluid substance are the decimal and centesimal dilutions.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *one part* of xylol; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of xylol; the the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* ot the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

YUCCA. (*yuk'ka.*)

NAT. ORDER, Liliaceæ.

SYN., Yucca filamentosa.

VULG., Adam's needle, Bear grass, Dagger plant, Spanish bayonet, Tuberose (?).

This plant is indigenous to the Southern and to the Southwestern United States of America.

The Preparations of the root and leaves of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '941, and *four parts* of the fresh root and *two parts* of the fresh leaves. Bruise, chop up, and disintegrate the plant, transfer to a suitable vessel and add the alcohol and macerate for fourteen days; express and filter.

The *drug power* of this tincture is 37.5 per cent; or, each minim contains the medicinal properties of *three-eighths grain* of the fresh plant, root and leaves.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *seven and three-fourths parts* alcohol, sp. gr. '941, *two and one-fourth parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '941, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-seven and three-fourths parts* of alcohol, sp. gr. '941, *two and one-fourth parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '941, *one part* of the first centesimal dilution.

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol sp. gr. '835, *one part* of each succeeding dilution.

ZINCUM. (*zink'cum.*)

SYN., Stannum indicum, Zincum metallicum.
VULG., Metallic zinc, Spelter, Zinc.
Formula.—Zn; 65.

This metallic substance, in form of an oxide (calamine), or a sulphide (blende), is frequently found associated with other ores in Germany, Great Britain and America. The oxide, distilled in the presence of charcoal, is readily vaporized and is condensed in the form of a bluish-white brittle metal which is quite malleable and is easily rolled into thin sheets. When heated to (205° C.) 401° F., it is readily reduced to powder.

The Preparations of this metal are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the finely powdered metal. Deposit the metal in porcelain mortar, and add *three parts* of milk sugar and steadily triturate for twenty minutes; add *three parts* more of milk sugar and again triturate for twenty minutes; then add balance of milk sugar and triturate for twenty minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the finely powdered metal. Deposit the metal in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the metal, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ZINCUM ACETICUM. (*zink'cum a-cet'i-cum.*)

SYN., Acetas zincicus, Zinci acetas, Z. aceticum, Zincic acetate.
VULG., Acetate of zinc.

Formula.—$Zn\ (C^2\ H^3\ O^2)^2\ 3\ H^2\ O$; 237.

This salt is prepared by digesting metallic zinc in diluted acetic acid. The crystals which are soft, white, six-sided tablets, possess a sharp metallic taste and are efflorescent in dry air. Acetate of zinc is soluble in 3 parts of water and in 29.5 parts of alcohol at (15° C.) 59° F. The salt should be kept in well-stopped bottles

Tests.—An aqueous solution of acetate of zinc when acidulated with hydrochloric acid and treated with hydrosulphuric acid should not yield a colored precipitate, thus showing the absence of *other* metallic substances.

The Preparations of this salt are the decimal and centesimal triturations.

(For Preparations See Z. Valerianicum.)

ZINCUM BROMATUM. (*zink'cum bro-ma'tum.*)

SYN., Zinci bromidum.
VULG., Bromide of zinc.

Formula.—$Zn\ Br^2$; 214.5.

This granular white salt is prepared by digesting granulated zinc in hydrobromic acid. Bromide of zinc is freely deliquescent and is soluble in both alcohol and water.

The Preparations of this salt are the decimal and centesimal triturations.

(For Preparations See Z. Valerianicum.)

ZINCUM CARBONICUM. (*zink cum car-bon'i-cum.*)

SYN., Carbonas zincicus, Zinci carbonas, Z. carbonas precipitata.
VULG., Precipitated carbonate of zinc.

Formula.—$(Zn\ Co^3)\ 3\ Zn\ (HO)^2$; 546.5.

This impalpable, permanent white powder is the resulting precipitate from an admixture of a solution of carbonate of soda with one of sulphate of zinc. The powder is insoluble in water but is soluble in diluted acetic acid. Heated to redness, in a crucible, it yields about 70 per cent of *oxide* of zinc.

Tests.—A solution prepared with diluted nitric acid should not yield a precipitate when treated with a solution of nitrate of barium, thus showing the absence of a *sulphide;* or, when treated with a solution of nitrate of silver, thus showing the absence of a *chloride.*

The Preparations of this salt are the decimal and centesimal triturations.

(For Preparations See Z. Valerianicum.)

ZINCUM CHLORATUM. (*zink'cum chlo-ra'tum.*)

SYN., Chloruretum zincicum, Zinci chloridum, Zincic chloride, Zincum chloridum, Z. muriaticum.

VULG., Chloride of zinc.

Formula.—Zn Cl^2; 136.

This substance is prepared by dissolving metallic zinc in hydrochloric acid, adding a limited quantity of nitric acid, evaprating the solution to dryness and then dissolving the dry mass in distilled water and adding a limited quantity of zinc, filtering the solution (after thorough agitation) and again evaporating the solution to dryness and *fusing* the dry mass and pouring it on a flat stone where it may congeal. Chloride of zinc should be kept in a well-stopped bottle. This salt is, either in form of irregular fragments, opaque rods, or powder, very deliquescent on exposure to air. It is freely soluble in alcohol, but an aqueous solution is usually turbid unless made from the recently prepared salt. The solution, if turbid, must be filtered through asbestos or gun cotton, and *not* through *any organic* substance.

The Preparations of this salt is its decimal solution and its decimal and centesimal dilutions.

The Solution.—To prepare the solution add to *nine parts* of alcohol, sp. gr. '835, *one part* of the recently prepared chloride of zinc.

DILUTIONS.—To prepare the *second decimal* dilution it requires to *nine parts* alcohol, sp. gr. '835, *nine part* of the alcoholic solution; the *third decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the second decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the ***first centesimal*** dilution it requires to ***ninety parts*** of alcohol, sp. gr. '835, ***ten part*** of the alcoholic solution; the ***second centesimal*** dilution, to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of the first centesimal dilution.

All subsequent dilutions are made by adding to ***ninety-nine parts*** of alcohol, sp. gr. '835, ***one part*** of each succeeding dilution.

ZINCUM IODIDUM. (*zink'cum iod'i-dum.*)

SYN., Zinci iodidum, Zincic iodide.
VULG., Iodide of Zinc.
Formula.—$Zn\,I^2$; 319.

The Preparations of iodide of zinc are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the ***first decimal*** trituration it requires to ***nine parts*** of milk sugar ***one part*** of the iodide of zinc. Deposit the iodide in a porcelain mortar, and add ***three parts*** of milk sugar, and steadily triturate for ten minutes; add ***three parts*** more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The ***second decimal*** trituration requires to ***nine parts*** of milk sugar ***one part*** of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add ***three parts*** of milk sugar and steadily triturate for fifteen minutes; add ***three parts*** more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to ***nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***second decimal*** trituration.

The ***first centesimal*** trituration requires ***ninety-nine parts*** of milk sugar to ***one part*** of the iodide of zinc. Deposit the iodide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the iodide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to ***ninety-nine parts*** of milk sugar ***one part*** of each succeeding trituration; adding the vehicle and proceeding as directed for the ***first centesimal*** trituration.

ZINCUM OXYDATUM. (*zink'cum ox-i-da'tum.*)

SYN., Calx zinci, Lana philosophica, Nihilum album, Oxydum zincicum, Pompholyx, Zinci oxidum, Zincic oxide, Zincum album.
VULG., Oxide of zinc.
Formula.—ZnO; 81.

This substance is prepared by exposing recently prepared carbonate of zinc to a low red heat until free from both carbonic acid and water.

The Preparations of the oxide are the decimal and centesimal triturations. Besides these, there is an *ointment of oxide of zinc.**

TRITURATIONS.—To prepare the ***first decimal*** trituration it requires to ***nine***

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* See Part I, page 87, Paragraph 295.

parts of milk sugar *one part* of the oxide. Deposit the oxide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the oxide. Deposit the oxide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the oxide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ZINCUM PHOSPHIDUM. (*zink'cum fos-fi'dum.*)

SYN., Zinci phosphidum, Zincum phosphatrum.

VULG., Phosphide of zinc, Phosphuret of zinc.

Formula.—$Zn^3 P^2$; 256.7.

This salt is prepared by fusion. The metal is first fused and then small pieces of phosphorus are added from time to time, (the crucible being kept closed as tightly as possible) until the the two elements are combined. The grayish-black crystalline mass on being fractured presents a metallic lustre.

The Preparations of the phosphide are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the phosphide. Deposit the phosphide in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the phosphide. Deposit the phosphide in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the phosphide, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ZINCUM SULPHURICUM. (*zink'cum sul-fu'ri-cum.*)

SYN., Sulphas zincicus, Vitriolum album, Zinci sulphas, Zincic sulphate.

VULG., Sulphate of zinc, White vitriol.

Formula.—$Zn\,SO^4.\ 7\,H^2\,O$; 287.

This salt, in form of colorless, occular needles or right rhombic prisms, is slowly effervescent in the dry air. It is odorless and of a nauseous, saline, sharp, metallic taste. It is soluble in 0.6 part of water at (15° C.) 59° F., but is insoluble in alcohol.

Tests.—An aqueous solution of sulphate of zinc, acidulated with hydrochloric acid, should not yield a dark colored precipitate when treated with hydrosulphuric acid, thus showing the absence of *lead* and *copper*.

The Preparations of this salt are the decimal and centesimal triturations.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the sulphate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the sulphate. Deposit the sulphate in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts, to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ZINCUM VALERIANICUM. (*zink'cum va-le-ri-an'i-cum.*)

SYN., Valerianas zincicus, Zinci valerianas, Zincic valerinate.

VULG., Valerianate of zinc.

Formula.—$Zn\,(C^5\,H^9\,O^2)^2\,H^2\,O$; 285.

This salt is prepared by mixing together hot saturated solutions of sulphate of zinc and valerianate of sodium, cooling the mixture and removing the crystals thus formed and evaporating the liquor that crystallization shall again occur. The crystals *thus* obtained are thoroughly washed on a filter with cold water and then dried. Valerianate of zinc is soluble in 100 parts of water and in 39 parts of alcohol at (15° C.) 59° F.

TRITURATIONS.—To prepare the *first decimal* trituration it requires to *nine parts* of milk sugar *one part* of the valerianate. Deposit the salt in a porcelain mortar, and add *three parts* of milk sugar and steadily triturate for ten minutes; add *three parts* more of milk sugar and again triturate for ten minutes; then add balance of milk sugar and triturate for twenty-five minutes.

The *second decimal* trituration requires to *nine parts* of milk sugar *one part* of the first decimal trituration. Deposit the one part (the first decimal) in the mortar, and add *three parts* of milk sugar and steadily triturate for fifteen minutes; add *three parts* more of milk sugar and again triturate for fifteen minutes; then add balance of milk sugar and triturate for thirty minutes.

All subsequent triturations are made by adding to *nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *second decimal* trituration.

The *first centesimal* trituration requires *ninety-nine parts* of milk sugar to *one part* of the valerianate. Deposit the salt in a porcelain mortar, and divide the milk sugar into three equal portions; add one portion, thirty-three parts to the salt, and steadily triturate for twenty minutes; then add another portion and triturate for twenty minutes; and finally, the last portion and triturate for twenty minutes.

All subsequent triturations are made by adding to *ninety-nine parts* of milk sugar *one part* of each succeeding trituration; adding the vehicle and proceeding as directed for the *first centesimal* trituration.

ZINGIBER OFFICINALE. (*zin'ge-ber of-fic-e-na'le.*)

NAT. ORDER, Zingiberaceæ.

SYN., Amomum zingiber, Gingiber albus, G. nigra, Zingiberis.

VULG., Ginger.

This perennial herb is an indigene of tropical Asia.

The Preparations of the root of this plant are the tincture and its decimal and centesimal dilutions.

The Tincture.—To prepare the tincture take *sixteen parts* of alcohol, sp. gr. '835, and *four parts* of the recently powdered root. Transfer the root to a suitable vessel, *moisten* with hot (112° F.) water and when cold add the alcohol and macerate for ten days; express and filter, and add sufficient alcohol that the tincture shall equal *sixteen parts*.

The *drug power* of this tincture is 25 per cent; or, each minim contains the medicinal properties of *one-fourth grain* of the recently powdered root.

DILUTIONS.—To prepare the *first decimal* dilution it requires to *six parts* alcohol, sp. gr. '835, *four parts* of tincture; the *second decimal* dilution, to *nine parts* of alcohol, sp. gr. '835, *one part* of the first decimal dilution.

All subsequent dilutions are made by adding to *nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

To prepare the *first centesimal* dilution it requires to *ninety-six parts* of alcohol, sp. gr. '835, *four parts* of the tincture; the *second centesimal* dilution, to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of the first centesimal dilution,

All subsequent dilutions are made by adding to *ninety-nine parts* of alcohol, sp. gr. '835, *one part* of each succeeding dilution.

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Yellow Dock, 574
" Dye Root, 398
" Flowered Rhododendron, 570
" Gentian, 375
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" Jassamine, 374
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" Valerianicum, 646
Zingiberis, 647
Zingerber Officinale, 647
Zizia Parsnip, 618
Ziziphora Pulegioides, 389

Carbonate of Lithia	5.608	grains.
Carbonate of Strontia	.664	"
Carbonate of Baryta	3.176	"
Chloride of Potassium	33.272	"
Chloride of Sodium	750.024	"
Sulphate of Potassa	.520	"
Phosphate of Soda	.048	"
Iodide of Sodium	.112	"
Bromide of Sodium	3.640	"
Alumina	.072	"
Silica	.760	"
Total	1079.736	grains.

Volatile Ingredient.

Carbonic Acid Gas	426.08	cubic inches.

3. AVON SPRINGS.

AVON, N. Y.

There are four recognized medicinal springs; below is given the analysis of the

SYLVAN SPRING. DR. J. R. CHILTON.

Chloride of Magnesium	62.400	grains.
Chloride of Sodium	97.440	"
Sulphate of Lime	80.426	"
Carbonate of Magnesia	15.974	"
Carbonate of Lime	26.800	"
Vegetable Matter	.240	"
Total	283.280	grains.

Volatile Ingredients.

Sulphuretted Hydrogen Gas	20.684	cubic inches.
Carbonic Acid Gas	4.992	"
Total	25.676	cubic inches.

4. BLUE LICK SPRINGS.

KENTUCKY.

J. F. JUDGE, M. D., and A. FENNEL, Cincinnati.

	Upper.		Lower.	
Carbonate of Lime	25.04	grains.	23.70	grains.
Carbonate of Magnesia	.08	"	.08	"
Sulphate of Lime	44.08	"	33.92	"
Sulphate of Potash	12.96	"	8.88	"
Chloride of Sodium	516.48	"	512.80	"
Chloride of Potassium	1.76	"	1.36	"
Chloride of Magnesium	37.68	"	32.32	"
Bromide of Magnesium	3.76	"	.24	"
Iodide of Magnesium	.08	"	....	"
Alumina, Phosphate of Lime, and Iron	1.92	"	.32	"

Silicic Acid......................	.96 grains.	1.04 grains.
Total......................	644.80 grains.	614.66 grains.

Volatile Ingredients.

Sulphuretted Hydrogen.......	8.16 cubic inches.	6.64 cubic inches.
Carbonic Acid..............	48.08 "	46.64 "

5. BUFFALO LITHIA SPRINGS.

MECKLENBURG COUNTY, VA.

Prof. WILLIAM P. TORREY, of the Maryland Institute.

One Imperial gallon contains of fixed ingredients:—

	No. 1.	No. 2.
Sulphate of Magnesia.............	1.530 grains.	.885 grains.
Sulphate of Alumina.............	8.180 "	9.067 "
Sulphate of Potash..............	.463 "	.... "
Sulphate of Lime................	19.251 "	33.067 "
Bicarbonate of Lime.............	39.277 "	14.963 "
Bicarbonate of Lithia............	1.484 "	2.250 "
Bicarbonate of Iron..............	.500 "	.300 "
Chloride of Sodium..............	1.256 "	4.921 "
Silica..........................	1.725 "	1.873 "
Carbonate of Potash.............	.... "	29.300 "
Bicarbonate of Baryta...........	.... "	1.750 "
Total....................	73.666 grains.	98.376 grains.

Volatile Ingredients.

Sulphuretted Hydrogen........	5.9 cubic inches.	8.3 cubic inches.
Carbonic Acid.................	69.1 "	59.2 "

6. CHAMPION SPRING.

SARATOGA, N. Y.

Prof. C. F. CHANDLER.

Chloride of Sodium..............................	702.239 grains.
Chloride of Potassium.........................	40.446 "
Bromide of Sodium...........................	3.579 "
Iodide of Sodium............................	.234 "
Bicarbonate of Lithia.........................	6.247 "
Bicarbonate of Soda..........................	17.624 "
Bicarbonate of Magnesia.....................	193.912 "
Bicarbonate of Lime.........................	227.070 "
Bicarbonate of Strontia......................	.082 "
Bicarbonate of Baryta.......................	2.083 "
Bicarbonate of Iron..........................	.647 "
Sulphate of Potassa..........................	.252 "
Phosphate of Soda...........................	.010 "
Alumina.....................................	.458 "
Silica.......................................	.699 "
Total....................................	1195.582 grains.

7.

COLUMBIAN.

SARATOGA, N. Y.
Prof. E. EMMONS.

Chloride of Sodium	267.00	grains.
Bicarbonate of Soda	15.40	“
Bicarbonate of Magnesia	46.71	“
Hydriodate of Soda	2.56	“
Carbonate of Lime	68.00	“
Carbonate of Iron	5.58	“
Silex	2.05	“
Total	407.30	grains.

Volatile Ingredients.

Carbonic Acid Gas	272.06	cubic inches.
Atmospheric Air	4.50	“
Total	276.56	cubic inches.

8.

CONGRESS SPRING.

SARATOGA, N. Y.
Prof. C. F. CHANDLER.

Chloride of Sodium	400 444	grains.
Chloride of Potassium	8.049	“
Bicarbonate of Magnesia	121.757	“
Bicarbonate of Lime	143.399	“
Bicarbonate of Lithia	4.761	“
Bicarbonate of Soda	10.775	“
Bicarbonate of Baryta	.928	“
Bicarbonate of Iron	.340	“
Bicarbonate of Strontia	traces.	
Bromide of Sodium	8.559	grains.
Iodide of Sodium	.138	“
Sulphate of Potassa	.889	“
Phosphate of Soda	.016	“
Silica	.840	“
Fluoride of Calcium	trace.	
Biborate of Soda	“	
Alumina	“	
Total	700.895	grains.

Volatile Ingredient.

Carbonic Acid Gas	392.289	cubic inches.

9.

CRAB ORCHARD SPRINGS.

LINCOLN COUNTY, KY.
(From which the celebrated Crab Orchard Salts are produced.)
DR. ROBERT PETER.

	Sowder's Sp'g.	Epsom Sp'g.
Carbonate of Magnesia	21.84 grains.	7.64 grains.

Carbonate of Lime	29.44	grains.	53.12	grains.
Chloride of Sodium	58.32	"	17.68	"
Sulphate of Potassa	17.36	"	9.84	"
Sulphate of Soda	23.20	"	59.04	"
Sulphate of Magnesia	174.24	"	205.28	"
Sulphate of Lime	91.28	"	10.72	"
Silica	1.22	"	3.26	"
Loss	....	"	34.56	"
Total	416.90	grains.	401.14	grains.

10.

CRYSTAL SPRING.

SARATOGA, N. Y.

Prof. C. F. CHANDLER. Temperature 50°.

Carbonate of Soda	9.696	grains.
Carbonate of Magnesia	44.544	"
Carbonate of Iron	1.480	"
Carbonate of Lime	70.760	"
Carbonate of Lithia	2.712	"
Carbonate of Baryta	.592	"
Chloride of Potassium	8.320	"
Chloride of Sodium	336.464	"
Sulphate of Potassa	2.152	"
Phosphate of Soda	.008	"
Iodide of Sodium	.064	"
Bromide of Sodium	.408	"
Alumina	.304	"
Silica	3.208	"
Total	480.712	grains.

Volatile Ingredient.

Carbonic Acid Gas................ 312 cubic inches.

11.

DEEP ROCK.

OSWEGO, N. Y.

Prof. S. H. DOUGLASS.

Chloride of Sodium	308.183	grains.
Chloride of Potassium	149.084	"
Chloride of Magnesium	1.244	"
Carbonate of Lime	18.191	"
Silica	71.698	"
Loss	1.780	"
Total	550.180	grains.

12.

EMPIRE SPRING.

SARATOGA, N. Y.

Prof. C. F. CHANDLER.

Chloride of Sodium.......................... 506.630 grains.

Chloride of Potassium	4.292	grains.
Bicarbonate of Magnesia	42.953	"
Bicarbonate of Lime	109.656	"
Bicarbonate of Lithia	2.080	"
Bicarbonate of Soda	9.022	"
Bicarbonate of Baryta	.070	"
Bicarbonate of Iron	.793	"
Bicarbonate of Strontia	trace.	
Bromide of Sodium	.266	grains.
Iodide of Sodium	.006	"
Sulphate of Potassa	2.769	"
Phosphate of Soda	.023	"
Silica	1.458	"
Alumina	.418	"
Total	680.446	grains.

Volatile Ingredient.

Carbonic Acid Gas................ 344.669 cubic inches.

13. EUREKA.

Saratoga, N. Y.

R. L Allen, M. D.

Carbonate of Soda	5.000	grains.
Carbonate of Magnesia	29.336	"
Carbonate of Iron	3.000	"
Carbonate of Lime	41.320	"
Chloride of Sodium	166.216	"
Sulphate of Magnesia	2.144	"
Iodide of Sodium	4.664	"
Bromide of Sodium	1.568	"
Alumina	.232	"
Silica	.546	"
Total	254.026	grains.

Volatile Ingredient.

Carbonic Acid Gas .... 2.32 cubic inches.

14. EXCELSIOR SPRING.

Saratoga, N. Y.

R. L. Allen, M. D.

Chloride of Sodium	370.642	grains.
Carbonate of Lime	77.000	"
Carbonate of Magnesia	32.333	"
Carbonate of Soda	15.000	"
Silicate of Potassa	7.000	"
Carbonate of Iron	3.215	"
Sulphate of Soda	1.321	"
Silicate of Soda	4.000	"
Iodide of Soda	4.235	"

Bromide of Potassa	trace.	
Sulphate of Strontia	"	
Total	514.746	grains.

Volatile Ingredients.

Carbonic Acid Gas	250	cubic inches.
Atmosphere	3	"
Total	253	cubic inches.

15.

FRANKLIN SPRING.

BALLSTON, N. Y.

Prof. C. F. CHANDLER. Temperature 52°.

Chloride of Sodium	659.344	grains.
Chloride of Potassium	33.930	"
Bromide of Sodium	4.665	"
Iodide of Sodium	.235	"
Bicarbonate of Lithia	6.777	"
Bicarbonate of Soda	94.604	"
Bicarbonate of Magnesia	177.868	"
Bicarbonate of Lime	202.332	"
Bicarbonate of Strontia	.002	"
Bicarbonate of Baryta	1.231	"
Bicarbonate of Iron	1.609	"
Sulphate of Potassa	.762	"
Phosphate of Soda	.011	"
Alumina	.263	"
Silica	.735	"
Total	1184.368	grains.

Volatile Ingredient.

Carbonic Acid Gas	460.066	cubic inches.

16.

GETTYSBURG SPRING.

PENNSYLVANIA.

Prof. F. A. GENTH, University of Pennsylvania.

Sulphate of Strontia	.00427	grains.
Sulphate of Lime	.83145	"
Sulphate of Magnesia	6.77940	"
Sulphate of Potash	.20836	"
Sulphate of Soda	2.46776	"
Chloride of Sodium	.65790	"
Bicarbonate of Soda	.70457	"
Bicarbonate of Lime	16.40815	"
Bicarbonate of Iron	.03585	"
Bicarbonate of Manganese	.00669	"
Bicarbonate of Copper	.00050	"
Borate of Magnesia	.03492	"
Phosphate of Lime	.00679	"

Fluoride of Calcium	.00954	grains.
Alumina	.00380	“
Silicic Acid	2.03078	“
Organic Matter with traces of Nitric Acid	.70870	“
Impurities in the Water, like Clay	1.10069	“
Total	32.01012	grains.

17. GEYSER SPRING.

SARATOGA, N. Y.

C. F. CHANDLER, Ph. D. Temperature 46°.

Chloride of Sodium	562.080	grains.
Chloride of Potassium	24.634	“
Bromide of Sodium	2.212	“
Iodide of Sodium	.248	“
Fluoride of Calcium	trace.	
Bicarbonate of Lithia	9.004	grains.
Bicarbonate of Soda	71.232	“
Bicarbonate of Magnesia	149.343	“
Bicarbonate of Lime	168.392	“
Bicarbonate of Strontia	.425	“
Bicarbonate of Baryta	2.014	“
Bicarbonate of Iron	.979	“
Sulphate of Potassa	.318	“
Phosphate of Soda	trace.	
Biborate of Soda	“	
Alumina	“	
Organic Matter	“	
Silica	.665	grains.
Total	991.546	grains.

Volatile Ingredient.

Carbonic Acid Gas	454.082	cubic inches.

18. GLENN SPRING (identical with the original Bethesda).

WAUKESHA, WIS.

Prof. C. F. CHANDLER.

Chloride of Sodium	1.1944	grains.
Sulphate of Potassa	.4943	“
Sulphate of Soda	.6212	“
Bicarbonate of Lime	15.9764	“
Bicarbonate of Magnesia	11.5795	“
Bicarbonate of Iron	.0866	“
Bicarbonate of Soda	.7595	“
Phosphate of Soda	.0034	“
Alumina	.0466	“
Silica	1.0497	“
Organic Matter	2.2160	“
Total	34.0276	grains.

19.

HATHORN SPRING.

SARATOGA, N. Y.

Prof. C. F. CHANDLER.

Chloride of Sodium	509.968	grains.
Chloride of Potassium	9.597	"
Bromide of Sodium	1.534	"
Iodide of Sodium	.198	"
Bicarbonate of Lithia	11.447	"
Bicarbonate of Soda	4.288	"
Bicarbonate of Magnesia	176.463	"
Bicarbonate of Lime	170.646	"
Bicarbonate of Baryta	1.737	"
Bicarbonate of Iron	1.128	"
Phosphate of Soda	.006	"
Alumina	.131	"
Silica	1.260	"
Total	888.403	grains.

20.

HOT SPRINGS.

HOT SPRINGS VALLEY, ARK.

DR. DAVID DALE OWEN shows the springs to contain:—

Bicarbonate of Lime.
Bicarbonate of Magnesia.
Bicarbonate of Iron.
Subcarbonate of Magnesia.
Subcarbonate of Iron.
Subcarbonate of Soda.
Chloride of Sodium.
Sulphate of Soda.
Sulphate of Magnesia.

The hot springs are very numerous, and are used principally for bathing purposes.

The temperature varies from 135° to 156°.

21.

IDAHO HOT SPRINGS.

CLEAR CREEK COUNTY, COL.

DR. F. G. DOHLE. Temperature from 85° to 115°.

Carbonate of Soda	30.80	grains.
Carbonate of Maguesia	2.88	"
Carbonate of Iron	4.16	"
Carbonate of Lime	13.52	"
Sulphate of Soda	29.46	"
Sulphate of Magnesia	18.72	"
Sulphate of Lime	3.44	"
Silicate of Soda	4.08	"
Total	107.06	grains.

22. PAVILION SPRING.

SARATOGA, N. Y.

Prof. C. F. CHANDLER.

Chloride of Sodium	459.903	grains.
Chloride of Potassium	7.660	“
Bromide of Sodium	.987	“
Iodide of Sodium	.071	“
Bicarbonate of Lithia	9.486	“
Bicarbonate of Soda	3.764	“
Bicarbonate of Magnesia	76.267	“
Bicarbonate of Lime	120.169	“
Bicarbonate of Baryta	.875	“
Bicarbonate of Iron	2.570	“
Sulphate of Potassa	2.032	“
Phosphate of Soda	.007	“
Alumina	.329	“
Silica	3.155	“
Total	687.276	grains.

23. POLAND.

SOUTH POLAND, ME.

S. DANA HAYES, State Assayer, Massachusetts.

Potash	.265	grains.
Soda	.677	“
Lime	.951	“
Magnesia	.067	“
Carbonic Acid (combined)	.576	“
Chlorine	.378	“
Silicic Acid	1.106	“
Protoxide of Iron	traces.	
Sulphuric Acid	“	
Total	4.020	grains.

24. SALT LAKE HOT SPRING.

UTAH.

Prof. JACKSON. Temperature 120°.

Carbonate of Magnesia and Lime	3.976	grains.
Chloride of Sodium	19.544	“
Chloride of Magnesium	.528	“
Chloride of Calcium	4.528	“
Sulphate of Soda	5.536	“
Peroxide of Iron	.168	“
Total	34.280	grains.

25. SARATOGA ALUM.

DR. J. G. POHLE, of New York.

Chloride of Sodium	565.300	grains.

Chloride of Potassium	.357	grains.
Bicarbonate of Soda	6.752	"
Bicarbonate of Lime	56.852	"
Bicarbonate of Magnesia	20.480	"
Bicarbonate of Iron	1.724	"
Sulphate of Lime	.448	"
Sulphate of Magnesia	.288	"
Sulphate of Soda	2.500	"
Sulphate of Potassa	.370	"
Silicic Acid	1.460	"
Alumina	.380	"
Total	656.911	grains.

Volatile Ingredients.

Carbonic Acid Gas	212	cubic inches.
Atmospheric Air	4	"
Total	216	cubic inches.

26.

SARATOGA VICHY.

SARATOGA, N. Y.

Prof. C. F. CHANDLER. Temperature 50°.

Chloride of Sodium	128.689	grains.
Chloride of Potassium	14.113	"
Bromide of Sodium	.990	"
Bicarbonate of Lithia	1.760	"
Bicarbonate of Soda	82.873	"
Bicarbonate of Magnesia	41.503	"
Bicarbonate of Lime	95.522	"
Bicarbonate of Baryta	.593	"
Bicarbonate of Iron	.052	"
Alumina	.473	"
Silica	.758	"
Total	367.326	grains.

Volatile Ingredient.

Carbonic Acid Gas	383.071	cubic inches.

27.

STAR SPRING.

SARATOGA, N. Y.

Prof. C. F. CHANDLER.

Chloride of Sodium	378.962	grains.
Chloride of Potassium	9.229	"
Bromide of Sodium	55.650	"
Iodide of Sodium	20.000	"
Sulphate of Potassa	5.400	"
Bicarbonate of Lime	120.549	"
Bicarbonate of Magnesia	61.912	"
Bicarbonate of Soda	12.662	"

Bicarbonate of Iron	1.213	"
Silica	1.283	"
Total	666.860	grains.

Volatile Ingredient.

Carbonic Acid Gas................ 407.55 cubic inches.

28.

SELTZER.

SARATOGA, N. Y.

Prof. C. F. CHANDLER. Temperature 50°.

Carbonate of Soda	20.416	grains.
Carbonate of Magnesia	23.904	"
Carbonate of Iron	1.240	"
Carbonate of Lime	62.432	"
Carbonate of Lithia	.568	"
Chloride of Sodium	134.288	"
Chloride of Potassium	1.336	"
Sulphate of Potassa	.552	"
Iodide of Sodium	.032	"
Bromide of Sodium	.632	"
Alumina	.376	"
Silica	2.560	"
Total	248.336	grains.

Volatile Ingredient.

Carbonic Acid Gas................. 320 cubic inches.

29.

WHITE SULPHUR SPRING.

GREENBRIER COUNTY, W. VA.

Prof. A. A. HAYES. Temperature 62°.

One pint contains of fixed ingredients:—

Carbonate of Lime	.884	grains.
Chloride of Magnesium	.125	"
Sulphate of Magnesia	4.427	"
Sulphate of Lime	9.794	"
Organic Matter	.545	"
Silicates	.432	"
Total	16.207	grains.

Volatile Ingredients.

Carbonic Acid Gas	1.41	cubic inches.
Sulphuretted Hydrogen Gas	.03	"
Oxygen	.06	"
Nitrogen	.58	"
Total	2.08	cubic inches.

(*Foreign.*)

30. APOLLINARIS.

NEAR NEUENAHR IN THE VALLEY OF THE AHR.

Prof. G. BISSHOFF of Bonn.

Fixed ingredients in ten thousand parts by weight:—

Carbonate of Soda	12.57	grains.
Sulphate of Soda	3.00	"
Phosphate of Soda	trace.	
Chloride of Sodium	4.66	grains.
Carbonate of Magnesia	4.42	"
Carbonate of Lime	.59	"
Oxide of Iron with Alumina	.20	"
Silicic Acid	.08	"
Total	25.52	grains.

Volatile Ingredients.

Free and semi-combined Carbonic Acid	27.76	grains.
Combined Carbonic Acid	8.07	"
Total	35.83	grains.

31. FRIEDRICHSHALL.

DUCHY OF SAXE-MEININGEN, GERMANY.

Prof. JUSTUS VON LIEBIG.

Ten thousand parts contain of fixed ingredients:—

Sulphate of Magnesia	39.55	grains.
Sulphate of Soda	46.51	"
Sulphate of Potash	1.52	"
Chloride of Sodium	61.10	"
Carbonate of Lime	.11	"
Carbonate of Magnesia	3.99	"
Sulphate of Lime	10.34	"
Chloride of Magnesium	30.25	"
Bromate of Magnesia	.87	"
Total	194.24	grains.

Volatile Ingredient.

Carbonic Acid, free and half-combined	5.32	grains.

32. HUNYADI JANOS.

Prof. BUNSEN of Heidelberg.

Ten thousand parts contain of fixed ingredients:—

Sulphate of Magnesia	225.514	grains.
Sulphate of Soda	223.500	"
Bicarbonate of Soda	6.760	"
Bicarbonate of Strontia	.270	"
Bicarbonate of Oxide of Iron	.006	"
Bicarbonate of Lime	7.967	"
Sulphate of Potash	1.206	"

Chloride of Sodium	17.048 grains.
Silicious Earth	.106 "
Total	482.377 grains.

Volatile Ingredient.

Carbonic Acid.................... 5.226 cubic inches.

33. KISSINGEN.

Prof. JUSTUS VON LIEBIG of Munich.

One pound of water (7,680 grains) contains of fixed ingredients:—

	Rakoczy.	Pandur.	Maxbrunnen.
Chloride of Sodium	44.7133 gr.	42.3990 gr.	17.5252 gr.
Chloride of Potassium	2.2034 "	1.8539 "	1.1405 "
Bromide of Sodium	.0644 "	.0554 "	.... "
Nitrate of Soda	.0715 "	.0271 "	.6543 "
Chloride of Lithium	.1537 "	.1290 "	.0044 "
Chloride of Magnesium	2.3331 "	1.6253 "	.5116 "
Sulphate of Magnesia	4.5088 "	4.5908 "	1.8246 "
Carbonate of Magnesia	.1309 "	.3439 "	.5608 "
Sulphate of Lime	2.9904 "	2.3074 "	1.0607 "
Phosphate of Lime	.0431 "	.0401 "	.0317 "
Carbonate of Lime	8.1482 "	7.7939 "	4.6258 "
Carb. of Protoxide of Iron	.2425 "	.2028 "	.... "
Silica	.0991 "	.0315 "	.0698 "
Ammonia	.0070 "	.0295 "	.0653 "
Iodide of Sodium	traces.	traces.	traces.
Borate of Soda	"	"	"
Sulphate of Strontia	"	"	"
Fluoride of Calcium	"	"	"
Phosphate of Alumina	"	"	"
Carbonate of Manganese	"	"	"
Total	65.7384 gr.	61.4296 gr.	27.8747 gr.
Temperature	51°	51°	48.6°.

Volatile Ingredients.

Carbonic Acid in one pound=32 cubic inches of water.

Rakoczy.	Pandur.	Maxbrunnen.
41.77	48.17	41.85

34. SAIDSCHITZ.

Prof. BERZELIUS.

Sulphate of Magnesia	673.328 grains.
Sulphate of Soda	374.408 "
Nitrate of Magnesia	201.368 "
Carbonate of Magnesia	39.880 "
Crenate of Magnesia	8.528 "
Sulphate of Lime	80.616 "
Sulphate of Potash	32.768 "
Chloride of Magnesium	17.352 "

Oxide of Iron	.873	grains.
Silicic Acid	.288	"
Oxide of Tin	.240	"
Iodide of Magnesium	.288	"
Total	1429.894	grains.

35. ST. CATHARINE'S WATER.

(Concentrated as found in the market.)

J. R. CHILTON, M. D.

Carbonate of Magnesia and Lime	16.64	grains.
Chloride of Sodium	6250.88	"
Chloride of Magnesium	10318 08	"
Chloride of Calcium	23603 20	"
Protochloride of Iron	110.08	"
Sulphate of Lime	130.56	"
Iodide of Magnesium	16 88	"
Bromide of Magnesium	16.08	"
Silica, Alumina, and Lithia	18.96	"
Total	40481.36	grains.

(*Native.*)

36. MOUNT CLEMENS.

MICHIGAN.

PROF. DUFFIELD.

One Imperial pint contains of fixed ingredients:—

Chloride of Sodium	1350.850	grains.
Chloride of Magnesium	20.240	"
Chloride of Calcium	26.939	"
Sulphate of Soda	12.070	"
Sulphate of Lime	5.499	"
Carbonate of Lime	.621	"
Silica and Alumina	1.401	"
Total	1417.620	grains.

Volatile Ingredient.

Sulphuretted Hydrogen	43 cubic inches.

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